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ABSTRACT

Forensic linguistics (FL) provides consultation to lawyers through the analysis of language evidence during the pre-trial investigation. Evidence commonly analyzed by linguists in criminal cases includes transcripts of police interviews and language crimes (such as bribery) and anonymous or questioned texts. Forensic linguistic testimony is rarely admitted into courts of law, however. A major reason for this is apparently impressionistic methods, which are examined for their objectivity. A further barrier to legal acceptance is that FL experts, like all experts testifying in court, support the claims of whichever side has hired them. Nonetheless, forensic linguists have an ethical and professional responsibility to provide the legal community with reliable and admissible information and help prevent unfair conviction or acquittal of criminal defendants. Legal acceptance of FL expertise should increase as methods improve and as forensic linguists adapt to legal norms. This thesis includes five parts: (1) "The Field of Forensic Linguistics"; (2) "The Evidence Forensic Linguists Analyze"; (3) "The Need to Improve Credibility in the Legal Community"; (4) "Professional and Ethical Issues and Responsibilities for Forensic Linguists"; and (5) "The Future of Forensic Linguistics." Anthrax letters are appended. (Contains 92 references.) (SM)

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FORENSIC LINGUISTICS: THE LINGUISTIC ANALYST AND EXPERT WITNESS OF LANGUAGE EVIDENCE IN CRIMINAL TRIALS

A Thesis

Presented to

the Faculty of the School of Intercultural Studies

Department of TESOL and Applied Linguistics

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Applied Linguistics

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by

Sherilynn Nidever Jordan

August 2002

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ABSTRACT

FORENSIC LINGUISTICS: THE LINGUISTIC ANALYST AND EXPERT WITNESS OF LANGUAGE EVIDENCE IN CRIMINAL TRIALS

Sherilynn Nidever Jordan

Forensic Linguistics provides consultation to lawyers through the analysis of language evidence during the pre-trial investigation. Evidence commonly analyzed by linguists in criminal cases includes transcripts of police interviews and language crimes (such as bribery) and anonymous or questioned texts. Forensic linguistic testimony is rarely admitted into courts of law, however. A major reason for this is apparently impressionistic methods, which are examined for their objectivity. A further barrier to legal acceptance is that FL experts, like all experts testifying in court, support the claims of whichever side has hired them. Nonetheless, forensic linguists have an ethical and professional responsibility to provide as thorough and objective analyses as possible in order to provide the legal community with reliable and admissible information and help prevent unfair conviction or acquittal of criminal defendants. Legal acceptance of FL expertise should increase as methods improve and as forensic linguists adapt to legal norms.

FORENSIC LINGUISTICS: THE LINGUISTIC ANALYST AND EXPERT WITNESS OF LANGUAGE EVIDENCE IN CRIMINAL TRIALS

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The term forensic linguistics may evoke various images for the interested listener. One image may be that of a skillful rhetorician engaged in lively courtroom debate, wrapping an eloquent web of words around a rapt jury and winning his case (an image which more accurately may depict the hiring lawyer). On the other hand, the image may be a large question mark betrayed by a look of puzzlement. Although the first image is, as of yet, completely fictitious, the field of forensic linguistics still conjures up notions of language, law and justice with a whole range of possibilities to research and explore. The primary focus of this thesis will be to examine the investigative role of the forensic linguist in analyzing language evidence and interpreting it in a meaningful and objective manner for the benefit of the legal community. The secondary focus found in the linguistic literature, is the role of the forensic linguist as expert witness. This is because forensic linguistic testimony is heard in court much more rarely than linguistic evidence presented at the pre-trial stages in criminal proceedings. Part of the reason for this lies in issues of admissibility of expert testimony in court as well as in linguistic methods deemed subjective by the legal community, addressed in Part Three of this paper. Ethical and professional considerations of the practice of forensic linguistics (FL) is a further and subsidiary focus, examined in Parts Four and Five.

My initial interest in forensic linguistics was spawned by an encounter with articles about criminal proceedings in which forensic linguistic evidence

appeared to be a contributing factor to the outcomes of the cases. It became apparent to me that the forensic linguist shoulders a great burden in such cases to analyze the language evidence by the most objective means possible and under the pressure inherent in an adversarial, time-sensitive legal process. However, as will be seen, my idealism regarding forensic linguists' impartiality in the legal process was misguided, as experts (at least in the United States) are ultimately hired by the side whose case is helped by their analysis. Nevertheless, the forensic linguist must maintain the highest standards of her professional specialization in analyzing the evidence, while presenting the evidence to investigators and/or the court in a manner which demonstrates objectivity and scientific rigor to the compatively foreign, non-academic world of the legal community. Ultimately, the part she plays in forensic and/or criminal proceedings may have a very real impact on the future of an individual, the defendant, and/or the victim and victim's family.

It is hoped that this thesis will help contribute to the literature by presenting a coherent collection of relevant references as a readily available resource. In so doing, I hope to demonstrate that although forensic linguistic expertise is only slowly gaining recognition by the legal community, further developments in linguistic methodologies and professionalism and a greater awareness of the ethical and legal issues by linguists are likely to help increase their role as analysts and expert witnesses in criminal cases.

PART ONE

THE FIELD OF FORENSIC LINGUISTICS

THE FORENSIC LINGUIST DEFINED

Who exactly a forensic linguist is seems to be a matter of some debate. In the early applied linguistic literature, the term is used interchangeably with applied linguist in a legal setting, or alternatively, avoided altogether. Chambers (1990) points to Jan Svartik's 1968 publication of *The Evans Statement: A Case for Forensic Linguistics* as the birth of the field. In Svartik's report, police-recorded statements of a Timothy Evans (indicted for the murder of his wife) were analyzed stylistically, and the challenged (disputed) sections were shown to differ grammatically from the non-disputed sections. The methods used in forensic linguistic (FL) analysis have since then evolved, but the analysis of disputed confessions or statements continues to be a major facet of forensic linguistic work.

The definition of a forensic linguist is clouded by its confusability with more general issues of Language and Law and with legal interpreting, which is considered by some to be encompassed by FL (Gibbons, 1999). In one definition, Gibbons refers to FL strictly as "the field of the provision of linguistic evidence" (p. 164), which includes phonetic, syntactic (grammatical), lexical (word), handwriting, discourse and sociolinguistic analyses. Such analyses help in identifying (or disproving) the authors of anonymous or questioned texts (such as bomb threat letters or police records of suspect statements), or in better understanding what happened in an alleged language crime (such as bribery).

An alternative definition of a forensic linguist is an applied linguist who is consulted by the legal community in matters of language and the law.[1] Kniffka (1996a) refers to FL as "basic and applied research in the area of linguistic expert testimony in court" (p. 31). Rieber and Stewart (1990) instead use the term "language scientist" to more broadly encompass the interdisciplinary conglomeration of speech and hearing experts, communications theorists, and psychologists, as well as applied linguists in a stricter sense. A forensic linguist, by their classification, would be a "cover term for the language scientist serving as a legal expert" (p. 4).

The field of FL is not a neatly packaged field. As is true of most specialists, forensic linguists often conduct linguistic analyses of a more general nature than they are actually qualified to do; for example, Chambers (1990), a dialectologist, has given expert testimony on general linguistic questions in court. How do forensic linguists themselves describe their work? According to handwriting analyst Tom Davis (1996), a forensic expert "has two functions: to find clues, and to offer opinions" (p. 55). In FL, a clue consists of the linguistic evidence in a case, which a linguist may then analyze to create a hypothesis or opinion based on theoretical knowledge and expert experience. The court (judge or jury) then uses this to form the formal opinion of what happened in the alleged crime or creation of a disputed text. More realistically, in the American court system, the lawyer forms a hypothesis, turning to the forensic linguist to

provide a piece of the puzzle. Then the lawyer argues for this evidence-supported hypothesis, leaving the decisive opinion to the jury.

For the purposes of this thesis, a forensic linguist will be considered a linguist with either or both of two main functions as FL expert in the legal setting. First, the forensic linguist is primarily a consultant to the defense or prosecution and an analyst of language evidence in a legal case. It should be emphasized that this is by far the most common role the forensic linguist plays in the legal setting. Secondly, the forensic linguist may be called upon in a trial to provide expert testimony relating to his/her language analysis and interpretation of evidence, although forensic linguists are careful to avoid implying that they or any experts can interpret in the sense of deducing a defendant's innocence or guilt. The primary arena of focus, as mentioned above, pertains to FL involvement in criminal court proceedings.

LANGUAGE AND THE LAW VERSUS FORENSIC LINGUISTICS

Combing through the literature on forensic linguistics, it becomes apparent that FL could be seen as a sub-branch of applied linguistics (on an academic discipline level and in terms of theory and the units of analysis), or as a branch of forensic sciences (on a practical level and in terms of its application to the legal setting). These links might help in clarifying misconceptions regarding the nature of FL as simply a practical combination of language with the law. In fact, FL is a small player in the game of criminal law, although increasingly gaining ground with other forensic sciences such as forensic

chemistry or forensic psychology. The contribution of FL to providing scientifically and legally recognized evidence in criminal cases (particularly in analyzing disputed texts) was considered, a little over a decade ago, "marginal" at best (Rieber & Stewart, 1990, p. 2). Although this is still true to some extent, FL has begun to gain recognition in the legal community in the years since then. It should be noted here that a serious weakness in the FL literature is a lack of court case citations. Thus, case citations will be provided herein whenever possible, but this will often not be possible because of the incomplete information given in sources cited, and/or because they occurred in the United Kingdom or another country besides the United States.

The field of Language and the Law evolved from the larger discipline of applied linguistics, which involves the application of linguistic theory and analysis to language issues in the real world (as opposed to being sheerly academic). Applied linguistic concerns range from second language acquisition and language learning to language and gender issues, and from orthographic questions to translation and literacy.

Language and the Law, while a daughter field of applied linguistics, is comprised of an equally wide range of issues. These are considered below, to provide an overview of applied linguistic involvement in the legal setting. Language and Law has been called the "mother-field" of forensic linguistics (Kniffka, 1996a, p. 22). As has been mentioned, the terms are often used interchangeably in the literature, but here language and the law will be

considered the backdrop for the subfield of FL, which is limited to the application of applied linguistics to the court setting. It should be underscored here that many of the studies in the overview below are not strictly FL studies, at least not in the sense defined in this paper, but rather linguistic studies of legal issues or language and the law in general.

OVERVIEW OF ISSUES IN THE FIELD OF LANGUAGE AND THE LAW

Language in the Legal Arena

Legal language.

Most people who have labored over tax forms or tried to interpret insurance documents are well aware of the challenge of trying to unravel legal language, also called legalese, to decipher the underlying meanings. There have been numerous studies both of the features that make legalese practically unintelligible to non-lawyers, and the impact of such language on participants, both legals and laymen, in the legal setting. As humorously illustrated in the caricature below, a lawyer would not simply offer someone an orange in everyday terms. Instead, he might say:

> "I hereby give and convey to you, all and singular, my estate and interest, right, title, claim and advantages of and in said orange, together with its rind, skin, juice, pulp, and pips and all rights and advantages therein and full power to bite, suck, or otherwise eat the same or give the same away with or without the rind, skin, juice, pulp and pips, anything hereinbefore or hereinafter or in any other means of whatever the nature or kind whatsoever to the contrary in anywise notwithstanding." (Hager in "Let's Simplify Legal Language",1959, quoting from *The Tulsa Tribune,* October 6, 1959, as quoted in O'Barr, 1981, p. 391)

Much of the lexical and syntactic complexity found in legalese is justified by the need for extreme precision and the avoidance of ambiguity for the accurate interpretation of a statement by a later court (Chimombo & Roseberry, 1998; Gibbons, 1999). The highly technical lexicon of legalese is reflected in rare words, ordinary words with specific legal meanings, the use of Latin (e.g., habeas corpus) and French (voir dire), and formal phrases (e.g., approach the bench) (Gibbons, 1999; O'Barr, 1981). As comically exemplified in the quote above, the repetition of words and couplets of similar words (such as "the truth, the whole truth, and nothing but the truth," or "to have and to hold") seem to flout the Gricean conversational maxim of quantity (Chimombo & Roseberry, 1998).[2] However, such couplets remain as a vestige of Old English oaths (O'Barr, 1981). Chimombo and Roseberry illustrate the frequent use of coreference in wills, such as the repetition of "this Will" (1998, p. 288), to avoid any potential for ambiguity.

The syntactic complexity found in legalese includes long sentences with multiple phrases and clauses strung together (Gibbons, 1990), "binomial and multinomial expressions . . . and syntactic discontinuities" (Chimombo & Roseberry, 1998, p. 296). No less than 13 features of legal language were identified in Mellinkoff's 1963 publication, *The Language of the Law*, which in addition to the above features, include "lack of clarity," "dullness," and "pomposity" (cited in O'Barr, 1981, p. 390).

Although language legislation is discussed below, it should be mentioned here that the Plain Legal Language movement which gained momentum in the 1990s has been attempting to simplify legal language to make it more understandable to laymen who find themselves in the legal setting (Gibbons, 1999). The movement seeks to translate the technical, written, formal style of legalese to "more everyday, spoken-like, and non-technical forms" (p. 160). One recommendation includes parallel texts with both legal and laymen's versions of a text and added explanatory notes provided for laymen (Chimombo & Roseberry, 1998). However, suggestions for changes have met with resistance for reasons of accuracy and precision, and the question of whether such changes clarify or simply further muddy the language remains a matter of debate (Gibbons, 1990, 1999; O'Barr, 1981). For example, it has been recommended that passive sentences be converted to active ones, but legal practitioners may be unable to make such a change when the agents are vague or unknown.

Related to legal language, the comprehensibility of legal documents has been the subject of some studies. For example, the British version of the Miranda Rights, "Notice to Detained Persons," has been criticized for its incomprehensibility to the very people it is meant to advise (Owen, 1996, p. 279). Revisions to the notice applied after a statistical formula based on syllable number, word and sentence numbers were found to be inadequate, and the measures of testing readability questioned. The revisions involved taking

sentences out of context and oversimplifying them. Owen concludes that readability theory "has little to offer" in solving the problem (p. 295).

In a 1995 United States Steel Case, a class action suit on behalf of black steel workers *(Rogers v. United States Steel Corp,* 536 F.2d 1001, 1008, 3rd Cir. 1976) also incorporated readability measures (Labov, 1998). The company had sent a letter to workers encouraging them to agree to a settlement rather than pursue the lawsuit. Interestingly, linguistic analysis found that the biased sections of the letter which encouraged a settlement were also less easily readable (based on syntactic complexity), while the unbiased sections (explaining, for example, "How to get information," p. 44) were comprehensible. Regardless of the judge's initial interest in the linguistic testimony, he decided against calling for time-consuming linguistic revisions to make the document more readable, although the judge conducted some of his own revisions.

In another case *(Doston et al. v. Duffy et al.,* 1988), a letter announcing benefit reductions to "non-cooperative" (as designated by their case workers) recipients of Aid to Families with Dependent Children (AFDC) was analyzed for its readability (Levi, 1994, p. 16). Levi, an expert witness hired in the class action suit by the Legal Assistance Foundation of Chicago, identified several areas in which comprehensibility of the letter was difficult: "vocabulary choice" (with excessive jargon and vague terms), excessively complex syntax, semantics, "pragmatic inferencing" (in which the document suggested unwarranted inferences), "discourse organization" (related to graphics, not

technically a linguistic consideration), and "document design" (p. 17). The judge ruled in favor of the plaintiff, ordering a payment of $1,000 to each of the AFDC recipients as well as a rewrite of the letter in the case.

Further related to the comprehensibility of legalese, jury instructions which cannot be understood by the very people they are designed to instruct has been a major area of concern in the linguistic literature. It has been observed that such instructions (and much other legal discourse, for that matter), are addressed "to the record" for possible later legal interpretation and not necessarily for the jurors' benefit (O'Barr, 1981, p. 393; see also Gibbons, 1999). Features of jury instructions making them difficult to understand include "left-branching sentences" (i.e., with lengthy noun phrases before the verb) rather than the "right-branching" constructions (where the verb comes after a simple subject and before the complement) which typify everyday English (O'Barr, 1981, p. 395; also Gibbons, 1999).[3] Right-branching sentences are much easier for English speakers to read because they do not require the reader to retain as much information in the brain while reading to the end of the sentence. Other problematic linguistic features confounding jury instruction comprehension include "nominalizations, difficult lexical items, and 'as to' phrases" (Kalin, 1982, p. 151). On a sociolinguistic level, difficult jury instructions spring from the faulty assumption that native English speakers can necessarily understand the instructions, since they are given in English (O'Barr, 1981). If jury instructions confuse the jury in a death sentence trial, the

consequences could be (literally) grave, as linguistic analysis demonstrated in a 1991 evidentiary hearing regarding the 1979 sentencing of a defendant for murder (Levi, 1994). Levi, an expert witness in the trial, demonstrated the lexical, syntactic and semantic ambiguity in such statements as: "If you unanimously find from your consideration of all the evidence that there are no mitigating factors to preclude the imposition of a sentence of death then you should return a verdict imposing a sentence of death" (trial transcript from *US ex rel. James P. Free, Jr. v. Kenneth McGinnis et al.,* quoted in Levi, p. 10[4]). Note, however, that while linguists such as Levi suggest injustice in complex jury instructions, the defense attorney in a case would most likely object to instructions which he felt were unclear. Further linguistic and sociolinguistic issues related to courtroom discourse are discussed below next.

Finally, the inaccessibility of legalese to most non-lawyers creates layman dependence on lawyers for interpretation, a role which lawyers are not necessarily trained to fulfill (O'Barr, 1981). In law school, students learn to translate everyday English into legal terms, but not the reverse. Thus lawyers are, according to critical linguists, "channel[s] of access to the law" (p. 401), perpetuating a position of power in the legal arena.[5] The common critical linguistic theme of power relations is further discussed below.

Courtroom discourse.

Interactions among the participants in court have been documented in numerous sociolinguistic studies. These studies have often focused on the

asymmetrical relations reflected in language and power differences (Conley & O'Barr, 1990; Kalin, 1982; Maher & Rokosz, 1992). For example, Conley and O'Barr (1990) observe that judges in small claims courts responded more positively to litigants giving "rule-oriented accounts" than to those giving "relational accounts" (p. 179). Rule-oriented accounts are characterized by attention to contractual details, chronological recounts of events, and documentation, and so conform to the legal system's requirements of relevance and precision. Relational accounts, on the other hand, assume that the court shares knowledge of the situation, and focus on relationships of the litigants, considered irrelevant by the court. Conley and O'Barr conclude that the fundamental distinction between the two types of accounts are power relations—relational accounts are "powerless" (p. 194), while rule-oriented accounts tend to reflect the higher educational levels of those litigants.[6]

Also related to the language of court, a study of the Anglo-American judge's role in the courtroom has been examined in court transcript analysis (Philips, 1990). In non-jury trials, particularly where matters of law are being decided, the judge, according to Philips, takes an active role, offering or negotiating alternatives to the positions offered by defense and prosecuting attorneys. This role contrasts with that in jury trials, where judges take an unbiased arbiter stance (Philips). Therefore, there is a greater possibility for the judge to play a large role in restructuring courtroom dialogue and hence in the trial outcome.[7]

There have been several critical discourse studies related to power relations manifested in courtroom interactions. Although his work was not studied in detail for this thesis, Teun A. Van Dijk (1998), a prominent writer on critical discourse analysis, provides a definition of the approach:

> Critical discourse is a type of discourse analytical research that primarily studies the way social power abuse, dominance and inequality are enacted, reproduced and resisted by text and talk in the social and political context. With such dissident research, critical discourse analysts take explicit position, and thus want to understand, expose and ultimately to resist social inequality. (What is Discourse Analysis?, par. 1)

From this perspective, discourse is seen as reinforcing the hierarchical structure of society by the use of control, limiting access to resources, and other means, not only in the "local context" of interactions, but also on the "global context" of society in general (Van Dijk, 1997, p. 15).

One such study of South African courts describes how uneducated and poor Black defendants usually have to represent themselves, unable to afford legal counsel (Moeketsi, 1999). They tend to give testimony based on false assumptions; for example, since answers must be truthful, it is better to invent a response than to be unable to remember the truth. Like the relational-oriented litigants in Conley and O'Barr's study (1990), they may ramble about their relationships with other litigants, or make interpretations inadmissible in court (Moeketsi, 1999). Other studies show how lower class defendants may try to use a formal register in court, but are unable to maintain it for as long as their middle class counterparts (Chimombo & Roseberry, 1998; Maher & Rokosz, 1992; O'Barr, 1981).

The assertion of power of police officers and lawyers in and out of court, including strategies of lawyers used to influence both witness answers and jury impressions of such witnesses, has been the subject of other critical studies on sociolinguistically asymmetric relations in the legal setting (Loftus, 1998; Maher & Rokosz, 1992). It may begin with police eliciting dubious (inadvertently potentially self-incriminating) answers from suspects during the interrogation that will be the object of attack by the prosecution in a trial (Chimombo & Roseberry, 1998). One study outlined various "models of legal counsel" in terms of their approach to disclosing information to clients (p. 278). Other studies describe how lawyers use various tactics to fulfil their duty in a cross examination of challenging a witness's credibility by, for example, making a witness's testimony appear inconsistent (Maher & Rokosz, 1992). While some linguistic researchers have focused on the "coercive" nature of leading questions,[8] others have, for example, noted the "argumentative value" of such questions in a cross examination in "signal[ing] controversial information" (p. 237). From a legal perspective, this is in fact the duty of a lawyer conducting a cross examination: to "minimize the effect on the judge or jury of testimony disadvantageous to his client, even when the lawyer has no doubt of the accuracy and honesty of that testimony" (*U.S. v. Wade*, 1966). To accomplish this, the cross examiner may attempt to portray a witness as hostile even when he is not, or otherwise discredit the witness's testimony, in order to create a reasonable doubt of his client's guilt.

The perceptions of suspects, defendants, witnesses and lawyers based on linguistic and paralinguistic features (such as voice pitch or volume) have also been the subject of linguistic studies (Chimombo & Roseberry, 1998; Kalin, 1982; Maher & Rokosz, 1992). For example, the choice of some defendants to remain silent may lead jurors or judge to infer guilt (Chimombo & Roseberry, 1998; Moeketsi, 1999). Jurors in American courts are instructed not to infer guilt from a defendant's choice of silence, but linguists suggest that this instruction does not necessarily preclude such inferences.[9] It also may be argued from a legal perspective that the choice to remain silent is not a "paralinguistic" feature at all, but rather (in general) the response to legal counsel (Lewis, personal communication, April, 2002[10]). However, this is how it is at least sometimes discussed in linguistic literature, which may indicate the political persuasion of the writers. Chimombo & Roseberry cite Greer 's "eleven legitimate reasons why innocent people might be advised to remain silent in the face of police questioning" (p. 302).

Other studies have focused on lawyer language, rather than defendant language. In one such study, lawyers switched registers several times within a single trial to create different effects (O'Barr, 1981). During the voir dire, a lawyer might use a "casual, colloquial style" to befriend jurors, but when cross-examining "hostile witnesses", use a harsher, more distant style (p. 396). (See above regarding the lawyer's role in the cross examination.)

In another study, Loftus (1998) demonstrated that "extremely subtle changes in the wording of questions [regarding a crime] can have a substantial effect on the answers given" (p. 3). The wording of a question may alter the witness's coding of the memory in question; for example, if asked, "Did you see the bike" rather than "Did you see a bike," a witness is more likely to answer "Yes" because the existence of the bike is strongly suggested by the use of the. Subsequently, when later questioned regarding the existence of the bike, the witness is likely to remember there being a bike even if there was not one in actuality. Similarly, verbs with different nuances may influence a witness's memory, as when "smash" is used instead of "hit", implying a more destructive action (p. 11). It should be emphasized that Loftus's study was not conducted in an actual court setting or with specific reference to legal implications, although later studies have followed which more directly relate (Maher & Rokosz, 1992).

Court Interpreting and Other Non-native Speaker Issues

A 1970 reversal of the murder conviction of a Puerto Rican worker in New York based on the violation of his right to a court interpreter precipitated an unprecedented concern in the U.S. for this linguistic right of non-native English speakers in courts (Finegan, 1997). This was based on the Court's mandate that the justice system "forbid that the state should prosecute a defendant who is not present at his own trial" (p. 423, quoting *U.S. ex rel. Negron v. New York*). The subsequent passage of the Court Interpreters Act stipulated that non-English speakers be appointed interpreters by the Court (Kalin, 1982; O'Barr,

1981). Prior to its passage, communication with non-English speakers had not been a priority. As this mandate was worked out practically, certification of court interpreters has become standardized, but the profession of court interpreting is fraught with "many cross-cultural complications" (Finegan, 1997, p. 424). Gibbons (1999) discusses court interpreting internationally, as well as some of the ongoing issues of interpreting culture.

Sociolinguistic (as well as language) differences can also be the source of serious miscommunication for internationals in English-speaking courts (Kalin, 1982). In one case in the 1970s, the language and cultural background of two Filipina nurses charged with facilitating patients' deaths "caused them to answer questions in a way that made them appear to be lying and trying to mislead the jury" (p. 151).[11] In another case, "Dr. A," a proficient English speaker, was indicted for perjury on the basis of apparent inconsistencies in his testimony regarding the parent abuse of a child treated for burns (Finegan, 1997, p. 424). The sociolinguistic analyst testifying for the defense demonstrated how "the contextualization cues characteristic of the physician's English" were unlike native English speaker cues, resulting in "crosstalk" which was misunderstood by the FBI investigator (pp. 424-425). This analysis "helped persuade the court that Dr. A had not in fact perjured himself" (p. 425).

In some cases, language proficiency testing has been used to demonstrate that the defendants could not have comprehended their Miranda rights and so incriminated themselves (see Roy, 1990), or that a suspect could

not have produced the language recorded in a police interview (Gibbons, 1990). (The latter case of disputed police records is discussed elsewhere in this paper, particularly in Part Two.) The violation of Miranda Rights because a suspect was deaf is the subject of another study (Levi, 1994).

Sociolinguistic disadvantage and/or misunderstandings extend beyond internationals to minority or indigenous language speakers. Kniffka (1996a) notes the disproportionate number of criminal proceedings and/or convictions involving non-members of the dominant culture. "This is," he laments, ". . . universal, applying to ethnic, religious, and many other minorities in many countries" (p. 36). He concludes that this issue must be addressed by future forensic linguistic research. Yup'ik Eskimos, for example, differ from the dominant culture, which the court usually represents, in their paradigm of relationships among court participants (Morrow, 1996). Contrary to the Alaskan legal community's assumptions regarding the Yup'ik, "what appears to be compliance is actually an effect of Yup'ik conceptions of awareness" (Morrow, Conclusions, par. 1). Yup'ik cooperation by freely confessing guilt, warmly shaking hands with hostile witnesses, and so forth, is not done from powerlessness but in recognition of "the layering of multiple relationships with others, living and dead" (Morrow, Differing ideologies and social constructions of agency, par. 10). Similarly, in Australia, a disproportionate number of criminal defendants are Aborigines (Finegan, 1997). As with the Yup'ik in Morrow's study, Aborigines would rather cooperate and plead guilty even when they are

not than "submit to alien forms of questioning or subject themselves to other culturally offensive consequences" (Finegan, p. 425). Thus, already marginalized groups are further disadvantaged by a foreign and antagonistic court system (Finegan).[12], [13]

Language Legislation

Language legislation encompasses a vast range of issues from language policy to bilingual education. Language policy revolves around which language or languages is/are given official or national language status, which minority languages are recognized and accommodated (i.e., translations provided in public settings and interpreters provided in court), and which are ignored (for example, those consciously or unconsciously considered substandard or inferior, as Native American and other First Nation languages have generally been). Language policy also involves the determining of an orthography for a language, as in which alphabet or character system will be used in the written form of a language. Bilingual education is also determined by legislation. Will single classes be taught in multiple languages, will they be taught in the official language with bilingual aides or interpreters provided, or will classes be separated linguistically?

Internationally, there has been a trend of granting language rights to minority groups such as the Francophones in Canada or the Catalans in Europe (Gibbons, 1999). In the United States, however, the 1980s saw an "English-only movement," in spite of arguments that an English Language

Amendment carries "perceived racist overtones and potential negative consequences to the great intellectual and cultural resource bilingualism and multilingualism offer a nation" (Finegan, 1997, pp. 427-428). In the Voting Rights Act of 1965, states had been required to make available minority language voter materials to speakers of those languages, but this led to the political and practical controversies which persist in the United States right up to the present. It should be noted, however, that there is still no official language in the U.S., although some states, such as (ironically) multicultural California, have adopted such a policy in education.[14]

Regarding the legislated use of non-English languages in education, in the case *Lau v. Nichols* (1974) involving Chinese-speaking students in San Francisco, the Supreme Court mandated bilingual education "as an interim step on the path to education in English" (Finegan, 1997, p. 427; see also Levi, 1994). However, as noted in the paragraph above, California has since returned to an English-only policy in the schools. With regard to American English dialects in the schools, Judge Joiner, in his famous Ann Arbor Decision of 1979, determined that Black English Vernacular "'is not itself a language barrier,' but it becomes one when teachers do not take it into account in teaching Standard English" (Finegan, p. 430). The school board was then required to assist teachers in understanding and teaching BEV-speaking students, rather than to assist students with the language difference (by, for

example, requiring instruction in their native language variety) (Finegan, 1997; Levi, 1994).

Trademark Infringement Cases

Trademark infringement is defined in Garner (1999) as:

> the unauthorized use of a trademark—or of a confusingly similar name, word, symbol, or any combination of these—in connection with the same or related services and in a manner that is likely to cause confusion, deception, or mistake about the source of the goods or services. (pp. 785-786)

Forensic linguists (in the narrow definition of the term used in this paper) have been consulted in such cases. A frequently cited example in the literature involved a suit filed by McDonald's against Quality Inns International, who planned to open an economy chain of McSleep Inns (Lentine & Shuy, 1998). Linguists were hired by the defense to help demonstrate that the morpheme Mc- is not likely to cause confusion. This was apparently the first case in which trademark infringement was claimed regarding a prefix (combined with other words), rather than a name (Levi, 1994). Through corpus methods used to compile common usages and connotations of the prefix, the linguists discovered that Mc- has a flexible meaning "determined by context" (Lentine & Shuy, 1998, p. 74). Such generic associations were related to economy, MacIntosh products,[15] Scottish/Irish roots, and so on, and in some cases, several commercial uses of the prefix with such associations had gone unchallenged (which was one of the non-linguistic arguments by the defense)

(Lentine & Shuy; Levi). However, the judge was unconvinced and McDonald's won the case.

There have been several trademark infringement cases in which linguists were called upon to conduct phonetic analysis of similar-sounding names. In one such case *(Pathfinder Communications Corp. v. Midwest Communications Co.*, 1984*)* radio station "WMEE sought a preliminary injunction to enjoin the defendant's radio station from using the call letters WMCZ" (Levi, 1994, p. 3). Spectographic and rhyming similarities were demonstrated, as well as phonetic association theory explained by the expert witness, and the judge ruled in the plaintiff's favor, enjoining WMCZ from using any E-rhyming letters in its call letters (Winitz, Wyrsch, & Riddle, 1990). In a 1985 case *(Meredith Corp. v. Media Central, Inc.)*, KCTV filed a similar suit against KZKC-TV (Winitz et al.). The expert witness (who had also testified in the above case) for the plaintiff demonstrated the confusable similarity in sound based on memory theory (which, as Winitz et al. note, is based on inconclusive experimentation). The expert witness for the defense conducted an experiment in which 18 of 20 listeners did not confuse the two stations, suggesting that the call letters were not confusing, at least in short-term memory. However, the judge ruled in favor of the plaintiff, whom he granted "an injunction against defendant's continued use of the call letters" (court ruling cited in Winitz et al., p. 130).[16] Other call letter cases have involved similar phonetic analysis (Chambers, 1990; Levi, 1994).

Sociolinguistic and Dialectological Contributions

Since sociolinguistics investigates the relationship between language and society, it is closely related to the field of applied linguistics and may also include (depending upon the source) topics such as discourse analysis, as in courtroom discourse studies or pragmatic analyses of interactions on surreptitiously taped conversations; and multilingualism, language rights, and other issues of language, society, and culture (most of which are mentioned elsewhere in this thesis). In Language and the Law, sociolinguistics is sometimes used interchangeably with dialectology, the study of language varieties related to region, class, ethnicity, or other variables. Because dialectology is concerned with variations in sounds across language varieties,[17] among other factors, it is often discussed in the context of phonetic (the study of human voice sounds) and phonological (the study of specific languages' sound systems) analysis.

Levi (1994) divides dialectal concerns into two categories: (a) contemporary dialectics, which "can assist in demonstrating that a defendant's dialect is distinct from that of a speaker on a potentially incriminating recording" (p. 4), and (b) historical dialectology, focusing on "the development of dialects over time" (p. 4). When contemporary dialectal analysis is utilized, linguists do not aim to identify a specific speaker (contrary to the notion of voiceprinting), as dialectology is concerned with general characteristics of groups, not of

individuals. It can be used to rule out the probability that a defendant's voice is the same as that on a recording.

In one such case involving bomb threat calls made to an American airline, dialectologist Labov demonstrated differences between dialects of the defendant (Prinzivalli, a New Yorker) and the caller (Finegan, 1997; Labov, 1998; Levi, 1994). Instrumental charts depicted the articulatory phonemes of vowel sounds to graphically distinguish between the suspect's vowel patterns and those of the caller, whom Labov identified as a Bostonian. The linguistic evidence given by Labov and other experts (who used voiceprint analysis) provided enough reasonable doubt to acquit the defendant, whom Labov had realized immediately was not the bomb threat caller (Labov, 1998). A similar case (for which expert testimony was not admitted in court) revealed that while individuals were able to imitate another dialect briefly, they could not sustain imitation of vowel sounds (Gibbons, 1999; Levi, 1994). In yet another case, Rodman (2001) analyzed a taped drug deal in which the dealer spoke with an "African-American English dialect," while the defendant spoke Haitian Creole. The prosecutor claimed that because the defendant had been a "linguist" (interpreter) in the army, he could disguise his accent (par. 8). Although linguistic theory would negate the likelihood of this, as it is virtually impossible for an individual to disguise his voice for extended discourse (see Storey, 1996), the defendant was convicted of drug dealing.[18]

Contemporary dialectology can also be used in comparisons of errors in disputed confessions with those in linguist interviews of suspects, as was conducted for the robbery trial of two Francophone men in Toronto (Chambers, 1990). Although Chambers is quick to warn against concluding that the verdict was based on linguistic evidence, the linguist involved found enough discrepancies in error rates between the two documents to cast doubt on whether the two were written by the same author, and "the men were acquitted due to lack of admissible evidence" (p. 22).

Historical dialectology was used in a question of the land rights of a First Nation, the Temagamis, in a region of Ontario they claimed as their "ancestral home" (Chambers, 1990, p. 24; also, Levi, 1994). Historical dialect maps were drawn to show dialect differences in the region over time, and periods of contact between dialects. These maps indicated that the Temagamis had indeed been living in the region in question at the time in question, before 1763, when a Royal Proclamation "recognized the land rights of native peoples and formalized the mechanisms for surrender of native title" under George III of England (Chambers, 1990, p. 24). Although the expert testimony of anthropologists and other social scientists was also heard in the case, the judge "dismissed the expert testimony as 'nebulous,'" and the Temagamis lost (p. 30). After they had appealed their case to Canada's Supreme Court, however, "the Ontario government offered the Temagamis $30 million as an out-of-court settlement . . . in order to end further delays in the development of the area" (p.

30). Had the case been heard by the appellate court, the extensive expert evidence would have been re-examined and perhaps not seemed so nebulous.

Forensic Linguistics

As has already been mentioned, the focus of this thesis is on forensic linguistics in criminal trials, with particular focus on transcripts and on language evidence in cases where the authorship is unknown or questioned. In the United States, forensic linguists are hired by either the defense or the prosecution to analyze linguistic evidence in a case. If a defense attorney finds that the analysis does not support his case, the defense will relinquish the expert and look for another whose analysis is more favorable. The prosecution, on the other hand, or District Attorney (DA) in a criminal case, is required to reveal the analysis of a linguist (if hired) as evidence even if it favors the defense (*U.S. v. Wade,* 1966, 388 U.S. 218). As already mentioned, forensic linguists rarely (almost never, in the U.S.) actually testify as an expert witness in court. However, this role may increase as methods and professionalism improve.

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[1] The title has at times been avoided altogether by some applied linguists, particularly those involved in the practice, who are cautious in their optimism regarding the future of the field (and thus a label for it) (Kniffka 1996a).

[2] See page 44 for a summary of Gricean, or Grice's, maxims, and page 100 for a more detailed look at the maxim of quantity.

[3] An example of a right-branching sentence: This sentence is really quite easy to read. An example of a left-branching sentence: A bit more difficult to read is this sentence.

[4] Unfortunately, no specific case citation is provided by the author, as with many cases mentioned in this paper.

[5] Note that critical linguists do not appear, at least in the literature surveyed for this thesis, to discuss the fact that the defense shares power equal to that of the prosecution. Thus while it may appear that defendants are powerless in the legal realm, they do in fact have legal advocates who balance the power of the state.

[6] Note that this focus on power relations is the theme of critical discourse analysis, which will be discussed below.

[7] Lest this tendency give the impression that a defendant in a non-jury trial suffers disadvantage, it should be pointed out that the defendant has a right to a jury trial unless he chooses a non-jury trial to his own advantage, as in a plea bargaining.

[8] Note that leading questions generally raise objections from the opposing side, which the judge upholds.

[9] Such an inference would be considered juror misconduct in an American court. Because of the serious legal implications of inference from silence when instructed against it, it is necessary to investigate the studies on the topic to see how this conclusion was determined.

[10] Walter Lewis is a retired Los Angeles County Deputy District Attorney.

[11] Kalin (1982) does not indicate whether these nurses were actually convicted, but only that "as a consequence the jury may have believed them to be guilty" (p. 151).

[12] Note that sociolinguistic issues such as these and others discussed in Part One focus on "the study of language use in social interaction," dipping into areas which are also the concern of anthropologists or sociologists, but specifically relating to language (Finegan, 1997, p. 422).

[13] Studies demonstrating the large number of minorities convicted of crimes should not be taken as supporting a quota of convicted criminals. Rather, further research should focus not only on the proportions of criminal defendants who are minorities, but also on whether they were indeed guilty, regardless of ethnicity.

[14] In 1986, California voters passed Proposition 63, "making English the official language of the state" (Finegan, 1997, p. 427). Then in 1998, Proposition 227, also known as the Unz Initiative, specifically eliminated bilingual education in California (Unz & Tuchman, 1998).

[15] Note that the incorporation of Mac- into this corpus would have weakened the linguistic argument, as the suit concerned the use of Mc-, not Mac-.

[16] The fact that the plaintiff's actual call letters were used by the defendant would support this, as well.

[17] Linguists prefer to refer to non-geographically determined language differences as language varieties rather than dialects, which strictly relate to region (Hickey, 1996).

[18] For a further discussion of "dialect clichés" or linguistic profiling, see Part Two.

PART TWO

THE EVIDENCE FORENSIC LINGUISTS ANALYZE

TRANSCRIPTS

Transcripts As Incomplete Representations of Interactions

A transcript of any type tends to give the impression of providing a faithful record of a conversation event. Like a play script, a transcript breaks lines of dialogue into segments spoken by the interactants in the conversation, sometimes with the inclusion of paralinguistic (or nonverbal) expression such as a nod or laugh. Depending upon the purpose or function of the transcript, it will provide different types of information (Eades, 1996; Pickett, 1989). For example, in a court transcript, the usual pattern of lawyer question—witness response—lawyer feedback (a three-part interaction) is generally reduced to simple question and answer format (Eades). This can be seen in the following example (from Eades, 1996, p. 248), where the tape-recorded interaction was as follows:

> [Lawyer]: *You didn't um dilly-dally. You went straight to your two-way radio?---*
>
> [Witness]: *Yes.*
>
> [Lawyer]: *Yes. And you made the call straight away to the other police officers?*
>
> [Witness]: *Yes.*
>
> [Lawyer]: *Yes. And did they come straight down? ... .*

By contrast, the court script excluded underlined portions of the interaction (mainly, the lawyer feedback).[1] In addition, if any information deemed irrelevant

to the trial is uttered, it is "stricken from the record". In no type of transcript is the recorded script or lines of a speaker the exact record of what is said or how it is said, for much is omitted, such as word stress (and other clues described below for "linguistically accurate" transcripts) (Pickett, 1989). In addition, the length of a transcript is generally much shorter than its actual production (Shuy, 1984). Even when no conscious bias exists, then, a transcript cannot, by virtue of the choices made in recording a dialogue, be considered "neutral" (Eades, 1996, p. 241). The method and format of transcription, and which paralinguistic elements (if any) make it to the paper form, directly relate to the purpose for the transcript (Eades).

While a secretary-transcribed dictation or a play script lacking paralinguistic features may be of no consequence, this is not the case with transcripts used in a forensic and/or legal setting. In fact, most transcripts are considered highly inaccurate by forensic linguists and thus unusable for adequate linguistic analysis. Furthermore, transcripts vary widely in their level of accuracy in recording of actual words and attribution of words to the correct speakers, as transcriptionists or stenographers may mishear what is said or who says it (Shuy, 1981). It can be difficult to hear negation as well, such as in "didn't" or "can't" (Finegan, 1997, p. 430). In the United Kingdom, for example, police officers are expected to either tape-record or write longhand a verbatim record of a suspect interview, after which they then must type it out (M. Farringdon, 1996b). Even such carefully recorded transcripts typically contain

errors reflecting the difficulty of hearing an "indistinct voice" or dialect differences (p. 204).

However, according to Miron (1990), if a transcript can be shown to contain "even minor errors" (p. 58), the validity of the entire transcript can create enough doubt to be inadmissible evidence. To the contrary, retired Los Angeles Deputy District Attorney Walter Lewis argues that in his 32 years of experience, no transcript in a case was ever ruled inadmissible (personal communication, April, 2002). According to Lewis, legal procedure precludes inadmissibility in that defense and district attorneys both listen to the original tape, marking points difficult to hear on the transcript. In the rare event that the attorneys disagree on what was said, the presiding judge decides or determines that a part of the transcript be marked "unintelligible."

Nonetheless, because of linguistic views on the potential for discrepancies in transcripts, a forensic linguist's first concern in his analysis is to create a FL standard-meeting transcript, whether of a taped language crime (such as a surreptitiously recorded bribery or extortion event), a police interview with a defendant, a court proceeding record, or other transcript, (Pickett, 1993; Shuy, 1981). This revising or rewriting of a taped conversation can be time-consuming and require multiple listenings, even for an experienced forensic linguist (Shuy, 1993). A linguistically accurate (or mostly accurate) transcript will include, in addition to the paralinguistic features already mentioned above (stutters, pauses, false starts, and prosodic features such as word stress);

overlapping or interrupted turns; lax tokens (such as "uh-huh" or "mm"); self-corrections or repetition; (possibly) speed and pitch/tone variations; and if video-taped, nodding and other gestures or intended recipient of message. Even for linguists, such features can be difficult to discern, which amplifies the need for linguistic analysis and transcription. As Pickett (1989) explains, "The forensic linguist focuses on the minutiae of language usage—exactly which words or sounds were uttered, exactly how they sounded, and exactly how they fit together" (p. 1252). Lewis notes, however, that in his experience in Los Angeles County courts, "no defense attorney ever suggested the need for help from a linguistic expert in discerning the content of a transcript" (personal communication, April, 2002).[2] More details on the issues specific to evidential transcripts will be discussed below.

Types of Transcript Analysis

Authenticity evaluation of police transcripts or recordings of witness/suspect statements.

Analysis of police records involves determining from such records whether a suspect/witness statement is authentic or has in some way been tampered with or fabricated in the police recording process. Unfair incrimination and indictment has been identified in several cases where police records were found to be faulty in some way. While such seemingly gross injustices may not be as common today, or may not have been as common in the U.S. as in the

United Kingdom, it is worthwhile to examine the history of cases of "verballing" (Coulthard, 1996, p. 167) as well as problems and improvements in police recording procedures, plus some methods of linguistic analysis useful in examining the authenticity of such records.

Police fabrication or verballing of suspect confessions in statements or interrogations was common in much of the UK prior to the introduction of Electro Static Deposition Analysis (ESDA) in analyzing record authenticity (see p. 77 of this thesis). Even an unsigned or disputed confession can still be used in court to convict and execute an alleged criminal (Coulthard, 1996; Lewis, personal communication, April, 2002). For example, a murderer's unsigned, unwritten, and unrecorded verbal confession of guilt could be accepted as evidence in the testimony of the witness (a citizen, police officer, etc.) in a trial (Lewis). In the 1990s, following a series of reversals of such cases, the tendency to disbelieve defendants disputing such records was also reversed, and it became more common to disbelieve the police and find that in some cases they had altered the evidence (Coulthard, 1996; Gibbons, 1990).[3] Some famous cases of reversal included the prior convictions of the notorious Birmingham Six and Guildford Four (Coulthard, 1996).

One often-cited case is that of Chris Bentley. In the 1950s, Bentley and his friend Chris Craig were caught in the act of breaking and entering a warehouse, and Bentley's words "Let him have it," after which Craig shot a police officer dead, were interpreted by the court to indicate Bentley's instigation

of the murder (Coulthard, 1996, p. 166). Bentley denied having ever said this at all, but was subsequently indicted and hanged (Coulthard, 1993, 1996). Even a "cursory glance" at the rest of his statement would suggest, however, that the statement was not written in his words. He was illiterate and had a low IQ, while the statement was grammatically and lexically complex (Coulthard, 1993). (See Part Three for a more detailed description of the case.)

One of the linguistic issues regarding police records of statements and interviews relates to the misconception that verbatim records are in actuality verbatim. As discussed, legal or police transcripts are, like most other transcripts, claimed by linguists to be inherently inaccurate by linguistic standards (see also Blackwell, 1996). For the court, what matters is content or information, but often critical linguistic clues are buried in the manner in which something was said, which is generally omitted from such records (Eades, 1996). Furthermore, words may have been added or deleted by the transcriptionist (Shuy, 1984). Beyond these inadequacies, however, there may be other alterations of the original statement in its written recording, and the forensic linguist must determine from comparison of the transcript with the original recording what these alterations were, and whether they appear relevant or inconsequential (Shuy, 1981, 1984, 1990, 1993[4]). The essential problem with such alterations (if they are of consequence) is the bias they may consciously—or unconsciously—introduce to a transcript and then jury/judge (Coulthard, 1996).

A further issue related to police transcripts or records (but also related to the "verbatim" misnomer) concerns police procedures in recording such records. It would be seem that there are (as of yet) no standard police procedures for transcribing or recording confessions or statements (Coulthard, 1996; W. Wollen [police officer], personal communication, October, 2001). For example, police will sometimes record a "verbatim" record immediately after the interview, and other times not until the end of shift, several hours later (Coulthard; Wollen[5]).[6] Therefore, as Shuy (1981) notes, the linguistic accuracy of transcripts varies widely. Police memory is assumed to be credible, as in the Irish case of a man sentenced to 40 years in prison based on the sole remembered evidence of his alleged statement, "I know you know I did it" when he claimed to have said, "I know you *think* I did it" (Coulthard, 1996, p. 175).[7] In the U.K., the Police and Criminal Evidence Act (PACE) of 1984 required video or audio recording of all interviews, to be transcribed later only as needed. However, this may not prevent careless note-taking or inaccurate written records (Coulthard, 1996). This is because tapes are not actually double-checked; however, in the U.S., at least, the prosecution is required to relinquish such tapes to the defense, who would then be able to check them. A further complication is the tendency for the defense and the prosecution to produce different versions of the same transcript (Finegan, 1997). Lewis notes, however, that in this case, the judge or (if the judge cannot resolve the dispute) jury

decides what was recorded or which party to believe (personal communication, April, 2002).

Pickett (1989) recommends the standardization of police transcript format to facilitate the investigation of an examiner. While several of her suggestions are simple and practical, others are impractical for non-linguists and unlikely to be adopted by busy police officers—for example, her example below represents the timing of overlapped speech, in which John begins speaking but is then interrupted by, and speaks concurrently with, Joe:

Joe: Ne- ver mind.

John: But you always said that. (p. 1253)

Perhaps it would more practical from a linguistic perspective (though likely not from a financial one) for the court to hire licensed, experienced linguists to produce such transcripts from a tape, hired neither by the defense or the prosecution, and given no other information on the case than the tape itself. In the more probable event that a linguist is not hired for such purposes, however, standardized yet feasible procedures for police records could be prudent. Note, however, that some of Pickett's suggestions would seem unnecessary given court procedures. For example, she suggests that transcriptionists write "uh-huh" instead of "yes" when it was the first, not the latter, that was uttered; but in fact judges as well as lawyers insist that a witness clarify a "yes" or "no" answer, not allowing for such ambiguity (Lewis, personal communication, April, 2002).

A final issue concerning police records of interviews or statements involves the representation of the suspect or witness, whether intentionally represented as such or not. As may be the case with agent-set up language crimes captured on tape (discussed below), police trap the suspect into saying something that may be misconstrued or otherwise reflect negatively on the defendant later in court (Blackwell, 1996).[8] In an interview record, the suspect's expletives or substandard English use may be recorded while police utterances, even if including comparable language, are cleaned up in written form (Coulthard, 1996). This parallels the tendency for court stenographers to record the "disfluencies" of non-legals (citizens outside the legal professions), while correcting those of legal persons in the courtroom (p. 173). As a result, the police are presented in a positive light while the suspect's character is discredited. As Coulthard notes, this can be damaging because "a witness statement has value and credibility only in so far as the witness has value and credibility" (p. 174). Although such tendencies to alter language in transcripts are referred to as legitimate claims in the forensic linguistic literature, it should be noted that such is not believed to be the case by legal experts in American, or at least Los Angeles County, courts (Lewis, personal communication, April, 2002).

The forensic linguist's task, then, when analyzing a police record or transcript that a defendant has disputed or challenged as fabricated, is to distinguish, through textual and other analysis, apparently innocent changes in

the witness's wording from more deliberate ones. Support for such analysis comes from the principle or "judge's rules" (according to Coulthard, 1993) that "the statement should be in the exact words of the prisoner, it should not be edited or corrected for grammatical errors [sic]" (p. 93). Police correction or "idealization" (Blackwell, 1996, p. 267) of a suspect statement when the original was riddled with errors can have dire consequences, even when the officer recorded the statement "in good faith" (Gibbons, 1990, p. 233). Gibbons cites one such case in which a Laotian man's interlanguage (ESL stage of English production) contained no past tense endings, while the police record of his statement did.[9]

Similarly, the police may record a stereotypical representation of the defendant's language lower than the actual level of the non-native speaker. For example, in one Australian case, a linguist's interview with an Italian immigrant charged with growing marijuana yielded a far higher proficiency level than found in the police record of his statement (Gibbons, 1990). (Regardless of the linguistic findings, the man's son confessed to growing the marijuana plants.) This case also illustrates the FL method of contrasting two language systems claimed to be the defendant's: that found in the police record and that derived from the FL interview, which involves varying levels of formality and emotive topics to elicit as natural and unattended language as possible from the defendant for comparison. Another technique the linguist might use to achieve a comparison of the defendant's actual language and that disputed in a police

record is language testing, which should indicate whether the defendant's own words and syntax have been used or altered (or fabricated altogether).

One clue that a confession or statement has been altered is the existence of stylistic differences, as well as information that the police already have obtained elsewhere, also called "recycled information" (Winter, 1996, p. 168). In the Wellington case described in Part Three (ESDA), the defendant agreed to pages 1 to 4 and 8 of his statement, but not to pages 5 to 7 (Winter). The first four pages contained a set of narratives in question and answer form that ended at the bottom of page 4, while page 5 started with a new round of interaction in a new style, that of police statements agreed to by Wellington. None of the information was new or needed by the police, and both the content and ordering of this disputed section were identical to that in the confession of another individual, which the police already had.

Discourse analysis of alleged language crime recordings.

The basic problems of transcript format and accurate recording of the content and manner of a conversation have been discussed. One aspect of the linguist's interest in an evidential transcript is, as mentioned, checking and redoing the transcript of a conversation used as evidence. A transcript misrepresenting the original event could compromise the fairness of a criminal proceeding.

A further and more interpretive role the forensic linguist plays in analyzing transcripts is that of discourse analyst, or expert in understanding the

norms (and violations of those norms) in a conversation.[10] This role is key in the analysis of tapes of a purported "language crime," a term originally put forth by Roger Shuy (1993, p. 1), an experienced and often-cited forensic linguist and analyst of language crimes. "Language crimes" can refer to any statement whose illocutionary force is that which constitutes the commission of a crime: for example, bribery, extortion, acceptance of a bribe, perjury, drug deals, or other illegal transactions (Shuy, 1993).[11] Discourse analysis of alleged language crimes is critical because in spite of the apparent committing of a crime, a crime may in fact not have been committed.

Transcripts of language crimes are usually provided the triers of fact (judge/jury) to assist with hearing a surreptitiously recorded tape of the event, or as a substitute for a tape, if the conversation is long (Pickett, 1989). Shuy (1990) has likened the role of the linguist as expert analyst of conversations to that of a doctor reading an X-ray. Linguists have an understanding of what constitutes cooperative conversation, what violates it, and what comprises a speech event (such as a bribe event). Such knowledge provides insight into a purported language event that may be easily missed or misheard by laymen, in this context, the jury or judge.[12] For example, most cooperative conversations conform to Grice's four maxims, as listed in Shuy (1998, p. 24):

> (1) Quantity: Make your contribution as informative as required; no more, no less.
> (2) Relevance: Make your contribution relate directly to the topic. Be relevant.
> (3) Sincerity: Do not say what you believe to be false.
> (4) Manner: Avoid obscurity and ambiguity. Be orderly.

However, surreptitiously recorded language crime events by definition flout these maxims and create conversations which cannot be considered cooperative. The agent or "provocateur"'s intentions in the conversation are inherently deceptive in an attempt to seduce the "target" into committing a crime on tape (Shuy, 1990, p. 89[13]). In such an event, "misinterpretation is almost inevitable," not only during the actual conversation, but in subsequent listenings by outside parties (Finegan, 1997, p. 432). The goal for the conversation is not shared by the target, but this fact is not obvious to a jury attempting to examine the evidence in court.[14]

Thus, the linguist (or sociolinguist, or discourse analyst) enters in as an interpreter for the jury, aiding in differentiating between what seems to be occurring in a conversation and what is actually happening, at least from the linguistic understanding of the target's perspective, as opposed to the agent's. What a jury/judge generally perceives to be occurring on tape is what Shuy (1984, 1990) refers to as the "principle of contamination" or the "*appearance* of criminal activity" (1984, p. 233). After watching a video-taped conversation between two people in which one speaker slanders an outside party, for example, the audience may later recall that both speakers slandered when in fact only one did (Shuy, 1990). This is particularly a hazard when a jury "is swamped with data" (Shuy, 1984, p. 218). The discourse analyst "educate[s]" the jury to sort through this data with various analyses, such as topic analysis,

which highlights the topics of interest initiated by each speaker in an effort to analyze each speaker's agenda (Shuy, 1990, p. 86).

The Abscam case (in which Shuy testified) illustrates discourse analysis in action, and is described further in Part Three. The discourse analyst helps differentiate between "lexical meaning and functional meaning" (Shuy, 1984, p. 220), such as noting that lax tokens which appear to indicate agreement actually do not, but merely offer feedback indicating attentiveness. If a speaker says "uh-huh" as a sign of listening and "an indictment is made on the basis of a presumed agreement" (p. 221), the defendant could be indicted unfairly.

Shuy notes how government strategies to entrap a target violate an attorney general's pronouncement that "undercover operations" be "fair" and "unambiguous" (Shuy, 1984, p. 225, citing a 1980 quote of Philip B. Heymann). The "camoflauging" strategy of undercover agents attempts to either make a minor event or act seem major or a major one seem minor, which further contributes to the jury tendency to assume wrongdoing when listening to a surreptitiously recorded conversation. According to Shuy, this violates due process. In the Abscam case, the contamination principle succeeded by virtue of the government's "criminalizing strategy" which "convert[s] legal intentions into illegal ones" (Shuy, 1984, p. 227[15]). Finegan (1997) notes:

> The fact that a person carrying a recording device aims to get the target to commit a crime on record and steers the conversation in that direction has enabled sociolinguists to present evidence in court that the alleged crime. . . may well have other, less sinister interpretations, and several defendants have won acquittal on the basis of such analysis. (p. 433)

As Lewis notes, however, "It is very unlikely that anyone would know the basis for an acquittal unless, of course, the jurors say as much after the trial" (personal communication, April, 2002). (Shuy does not mention speaking with either the Senate Ethics Committee or the jury.)

To balance FL claims of the urgent need for discourse analysis of language crimes, however, it should be noted that "undercover drug buys are almost never subject to misinterpretation" (Lewis, personal communication, April, 2002). Not only must the language on the tape be clear and unambiguous enough to prove beyond a reasonable doubt that a crime was committed, but "the defense of entrapment is available" to counter an undercover agent's potential misconduct (Lewis). Furthermore, the contamination principle may be an exaggeration in that the jury is informed in the opening statement of the district attorney in the trial that an agent was wearing a "wire" (Lewis).

LANGUAGE EVIDENCE IN QUESTIONED OR ANONYMOUS AUTHORSHIP CASES

Forensic linguists are often hired to examine documents of anonymous or disguised origin, such as bomb threats, ransom or suicide notes, or other messages associated with crime. Many of the analytical methods resemble or are identical to those used to determine, for example, whether a police record or transcript is authentic or has been tampered with in some way. Stylistic comparisons of the disputed and undisputed sections of a statement loosely

parallel the stylistic comparisons between anonymous messages (such as bomb threats) and comparison language samples of suspects or other anonymous communications.

The language evidence may be phonetic, as in a phoned bomb threat, or written, as in a bomb threat communique. The methods for forensic phonetics are fairly sophisticated, incorporating equipment which can detect nuances of pronunciation, articulation, and so forth, and comparing anonymous messages with the known features of various language varieties. Because such phonetic analysis has at this point been more accepted by the legal community, and does not necessarily directly pertain to stylistic comparisons, it will be mentioned only briefly. Of greater interest for this discussion is the stylistic examination of written communications in seeking clues to their authorship.

The Uniqueness of Individual Linguistic Behavior

It may be a basic feature of human nature to desire considering oneself unique, and for some, particularly those who fancy themselves wordsmiths, this desire might extend into the language that they use. However, the question of whether a person can be identified solely on the basis of language evidence is less than certain. It is, however, the premise underlying forensic linguistic analysis of a speech or written sample whose author has been concealed or disguised. A brief look at this question of author uniqueness and identifiability is appropriate, then, before considering the use of author identification (or elimination) in the forensic setting.

In support of the notion that an individual's language behavior is unique, Don Foster, a literary scholar who has been involved with such famous U.S. forensic mysteries as the Unabomber and Jon Benet cases, claims, "We are all prisoners of our language" and "We cannot shake the habits of our language" (D'Antonio, 1998, par. 18). J. Farringdon (1996a) concurs that both speakers and writers are "victims of habit" in language use (p. 8). To a lesser extreme, Eagleson (1994) notes that linguistic comparisons derive from the assumption that "writers have many constant features in their practice springing from ingrained habits of using language, so that the writings of one author will resemble each other in numerous ways" (p. 363), and on which the style or subject matter have no bearing. Therefore, comparing the syntax (sentence structure), lexical usage (vocabulary), morphology (inflections), spelling, punctuation, and other features of an anonymous text with those of a text whose authorship is known can help reveal whether the authorship of the two texts is shared.

On the other hand, Kniffka (1996b) argues that it is very difficult, if not impossible, to isolate "idiolects" (p. 77), or speaker-specific language behavior. Ordinarily, applied linguists seek to find similarities among speakers of a similar language variety, so assuming and seeking individual differences presents a departure from traditional linguistics. Moreover, the language behavior of an individual may vary from speech event to speech event and even within a single event to the extent of being unpredictable, as Kniffka has demonstrated with his

study of the use of the Fugen-s by German speakers. German writers themselves seem confused about the use of this orthographic feature. For example, in one case, a court-transcribed reading copy of a criminal letter spelled a word *"Vorteil**s**annahne"* (the standard form), while it was *"Vorteilannahme"* in the original (p. 107). However, the same word was misspelled with s omitted in both forms of the letter in another instance. Another word, *Geschäft**s**führer* was correctly spelled with Fugen-s in the original criminal letter, but omitted (and therefore non-standard) in the reading copy. Because the use of Fugen-s depends on rules of morphology, semantics, register, variety of German, and other variables, the reasons for the different writers' choices in the above case (or in any) are complex. Kniffka concludes, "In talking about the 'norm' of everyday language use of adults, linguists have acted frequently as if these data were well-defined and operationalizable categories of scientific analysis. In fact we are dealing with fictions and nebulous concepts" (p. 91).

Kniffka's (1996b) point is well taken, although it should be noted that his example of German orthography perhaps would not apply universally to all features of any given language. Granted, there are some features whose uses are unclear, or which are so new to a language that rules for their uses are not yet established, but this ambiguity should not be assumed to apply to all uses of a language. However, Kniffka's conclusion is that a grid of individual language features, rather than a single language feature, should be considered in making

linguistic comparisons, and he proposes a method for achieving this multi-faceted approach to language analysis (see FLDD, p. 95). Eagleson (1994) concurs that "The greater the number of features and the more the features belong to different categories, the stronger the case for shared authorship" (p. 364).

The question of speaker uniqueness has been considered acoustically as well as stylistically. Although phonetic analysis differs from stylistic analysis in that it can be supported by technological advances, the debate is similar: Is it possible to determine the identity of a speaker on tape based exclusively on acoustic features? "Voiceprinting" analysis has assumed that it is. A voiceprint has been defined as "a visual representation of a spectral analysis of speech, showing how the balance of energy at different pitches or frequencies changes through time" (Nolan, 1994, p. 335). The term is meant to propose a parallel to the uniqueness of fingerprinting, and banks of voiceprints have been compiled in the same way that fingerprints have been, for comparison with new anonymous communications (Levi, 1994; Varney, 1997). The premise is that "no two people, living or dead, will ever have the same acoustic features of voice and that, no matter how well a person disguises the voice superficially, sensitive equipment will be able to show the basic features of the original voice" (Varney, p. 43). In one study where an experienced actor spoke with 36 different disguised voices, Storey (1996) concludes that "there is an identifiably constant character to clarity of enunciation, evenness of tone and some specific

articulations" (p. 215). Storey determined that in any utterance longer than a few words, unique "identity markers" can be isolated as clues (p. 215).

However, other linguists have argued that "individual voices do not show the consistency and invariance that would allow us to determine reliably whether the voices made on two tape recordings are the same or different" (Levi, 1994, p. 2, quoting Ash, 1988, in "Speaker identification in sociolinguistics and criminal law"). Nolan (1994) argues, "absolute assertions about identity based on speech may in principle never be justified, whatever techniques are used" (p. 333). Nolan suggests that both auditory (ear) and acoustic (computer) analysis be used together in speaker elimination or identification.

Although voiceprints, or more technically, spectrographs, were harshly criticized for their lack of scientific rigor and failure to produce reliable results for the FBI, improved technology has resulted in better reliability (Gibbons, 1999; see also Nolan, 1994). Vowel sounds in particular can be isolated and compared, and have done been so successfully in such cases as the Prinzivalli case (described above). Voiceprinting should be distinguished from "dialect cliches" (Hickey, 1996, p. 220) or, as it is more commonly termed in the U.S., linguistic profiling. Laymen tend to be able to identify the salient acoustic features of a given language variety, such as that "southern drawl" in the U.S., but Hickey maintains that such profiling may be more of a stereotype than reflective of scientifically provable voice distinctions.[16]

Speaker/Writer Identification Through Analysis of Language Stylistic Elements

Accepting the premise that language behavior, taken as the complex interaction of multiple linguistic features, can reveal an author, the next question is how far forensic linguistics can carry that premise in authorship identification. This can be ticklish, for the law requires evidence that tends to prove beyond a reasonable doubt that conclusions made are in fact the truth. Therefore, comparison analysis is more fruitful in eliminating authorship, or demonstrating that a suspect most likely did not produce a language sample, than in proving authorship, or demonstrating beyond a reasonable doubt that a suspect did indeed produce a language sample. In other words, linguistic analysis can "provide evidence in support of one of two conflicting claims . . . whether a given person was the author of (part of) a given document" (Coulthard, 1993, p. 86). Such a question is most often, though not exclusively, initiated by the defense seeking to find any evidence that a defendant might not have produced the language evidence being used to incriminate him or her (thus providing a reasonable doubt).

It is more difficult to assert that two pieces of language evidence were produced by the same person (Gibbons, 1999). It can be very difficult to claim that certain idiosyncratic features would most likely not be produced by other representatives of the same sociolinguistic group (Coulthard, 1993). As mentioned above, forensic phonetics holds the upper hand in this respect, in that population data is available, suggesting that a certain feature such as an

unusual pitch or articulation typifies a small percentage of a known segment of the population (Coulthard, 1993). Such population data is not yet available for written language behavior, although in individual cases, the linguistic analyst may be able to gather a corpus of comparison data (see Corpus Linguistics, p.106 of this thesis). Nonetheless, Kniffka (1996a) asserts that "forensic linguistic analysis . . . can achieve much more than [theoretical and general] linguists . . . tend to think and, generally speaking, can achieve less than what lay public opinion thinks it can" (p. 31).

As already mentioned, such analysis must cover a wide range and number of features to be considered reliable. "Bundles" or "configuration patterns" of features allow the forensic linguist to match, or at least disprove, authorship with a fair degree of confidence (Kniffka, 1996b, p. 87). One means of doing so is by comparing errors made in two (or more) sample documents (see Error Analysis, p. 113 of this thesis). Similar to the difficulty of drawing conclusions in the field of FL in general, error analysis involves such a small sample of data that it is difficult to make statistical comparisons (Hubbard, 1996). In addition, error analysis can be confounded by the conscious attempts of an anonymous author to disguise his or her identity, as can be seen in the case discussed below.

Following the September 11, 2001 destruction of the World Trade Center in New York City by terrorist-hijacked commercial jets, three anthrax-laced letters were sent to well-known destinations in the U.S.: one, to a senator in

Washington D.C, another to Tom Brokaw of NBC TV, and the third to the Editor of the New York Post.[17] All three letters were dated "09-11-01", and all three were written in block style capital letters, with the writing on the envelopes slightly slanted. (See Appendix A for a copy of the three letters from the Federal Bureau of Investigation, 2001.) Accomplished forensic linguists debated the possible identity of the writers on the Forensic Linguistics mailserv.list in the months that followed the October mailings of these letters. Three theories were put forward: that the author was (a) an American disguising him/herself as a foreigner, (b) a foreigner disguising him/herself as an American, or (c) a foreigner using language beneath his/her actual proficiency level.

Clues (or, in Kniffka's (1996b) terms, a bundle of features) examined in the letters themselves included the following:

1. Psycholinguistics: The date on the letters suggested an obvious link with the World Trade Center event, which seemed to be too consciously implied to be taken as an actual connection (Tiersma, October 25, 2001).
2. Spelling: The spelling of penicillin as "penacillin" seemed to suggest a native speaker of American English, as the letter a is the orthographic representation of the schwa in American English, though not in other languages. Arabic speakers would be more likely to drop the lax vowel sound altogether in the spelling. (Martin, October 30, 2001; Tiersma, October 25, 2001). Another spelling error suggesting a native speaker was the spelling of cannot as "can not," common among Americans but not likely to be produced

by a learner of English (Van Naerssen, October 25, 2001). However, it should be mentioned here that ESL students, such as native Korean and Japanese speakers, have indeed been seen producing this spelling of cannot.

3. Syntax and semantics: The sentence, "THIS IS NEXT" found in two of the three letters, created some debate among linguists. Van Naerssen suggested it was a "faked error," not likely to be the genuine error of a non-native English speaker. It was first suggested that "this" was "unfelicitous," failing to establish the necessary context for its use, and thus indicating a foreigner (Horn, October 25, 2001). "This" was alternatively identified as typical of native speaker, idiomatic, cataphoric usage (introducing a new topic—in this case, prefacing the statement "You die now" or the anthrax in the envelopes) (Horn, October 29, 2001; Stratman, October 29, 2001; Tiersma, October 29, 2001). A more radical suggestion was that "We have this anthrax" found in one of the letters was a conscious blasphemy of the Catholic Eucharist pronouncement, "We have this bread to offer," supported by the notion of a Holy War, which was the cause attributed to the World Trade Center attacks (Louw, 2001).
4. Lettering (handwriting analysis): The blocked, all-capital letters and slanted writing on the envelopes was first conjectured to suggest a non-native, possibly Arabic speaker with low English proficiency (Van Naerssen, October 29, 2001); but then dismissed as a disguise, since Arab students do not use all-capitals in English (nor in Arabic), and suggesting an American terrorist attempting to come across as an "illiterate" Arab (Lowndes, 2001).

Although other features were also considered by the contributing members of the mail list, the above provide a sample not only of analyses in the anthrax case, but also of the stylistic questions involved in questions of anonymous and/or disguised authorship.

In forensic phonetics, "voice line-ups" of voiceprint data may be compared to an anonymous caller via the Forensic Speaker Identification electronic system (Varney, 1997, p. 43). Cases of "blackmail, kidnapping, nuisance calls, confessions, telephone bomb threats, conspiracy, and hoaxes" (p. 43) have been solved using this bank of data. In addition, forensic phoneticians may create a profile of the expected characteristics of the perpetrator, such as age, educational level, status, and so forth. While written linguistic analysis of anonymous communications lacks the advantage of an existing bank of unique language patterns, psycholinguistic analysis may be done, as with voiceprints, to create a profile of the suspect and aid law enforcement in their search for the criminal.

A similar bank of information from written threats would be useful in helping to identify the level of intended seriousness of such threats and suggesting the appropriate response of law enforcement in a given situation (Carpenter, 1990). In the Czech Republic, for example, banks of data have been collected for decades and psycholinguists scan this data to identify classifications of linguistic behavior, such as clues of age, gender, profession and education level (Musilova, 1996). Clues to the "realizability" or real danger

of a threat can be classified and applied to new anonymous notes (p. 371). Psycholinguistic analysis may also be able to uncover clues by noting the level of familiarity of the writer with the recipient of the note, as when an employee writes threats to his/her company and in the message content unintentionally betrays the fact that s/he is an insider.

Psycholinguistic analysis should be distinguished from other forensic linguistic analysis. Although psycholinguistic analysis has been used synonymously with the terms "authorship identification, speaker identification, . . . stylistic analysis, threat assessment" and others (Pickett, 1993, footnote 4), it technically does not seek the same information. Psycholinguistic analysis, for the purposes of this paper, seeks to draw up a profile of writer/speaker sociodemographics, as well as to gather clues about the author's intentions.[18] One common measure of psycholinguistic assessment is Type-Token Ratio (see p. 90, below), which measures lexical diversity to evaluate whether a witness is telling the truth. Stylistic analysis, on the other hand, seeks to identify non-psychosocial features and look more specifically at the pattern of linguistic features as an end in itself, or as a means of comparing texts and identifying whether a suspect could have produced the given communication. Thus psycholinguistic analysis is only briefly mentioned here, and stylistic analysis, or for this paper, forensic linguistic analysis, remains the focus herein.

Two cases may help to illustrate the differentiation between these types of analysis. In one case in the United Kingdom, the suicide note of a pregnant

woman found hanging in the garage was analyzed and found stylistically to suggest it had been composed by her husband (Varney, 1997). Psycholinguistic analysis revealed a tone of "heavy self-criticism" in the note which conflicted with the testimony of neighbors who indicated that the woman had been satisfied with her life and hopeful about the future (p. 45). Circumstantial evidence collaborated with the linguistic evidence in pointing to the husband as the murderer, to which he later confessed. While in the above case stylistic, psycholinguistic and circumstantial evidence were all available to lead to the author of the note, in other cases, only linguistic evidence may be available.

In a superficially similar case in Australia, a typewritten farewell note from a mother who had disappeared was found (Eagleson, 1994). Known writings of the woman and her husband were used for comparison with the farewell note, as the husband was suspected of homicide. The rate of spelling error in the farewell note resembled more closely that of the husband's known writings, with identical misspelled words including "assult," "carring," and "treat" for threat, among others (p. 365). The use of capital and lower case letters in the farewell note also closely resembled those in the husband's known writings, but not in the wife's. Morphological analysis revealed that both the husband's writings and the farewell note contained "erratic" third person s usage, while no such errors were found in the wife's known writings (p. 367). Both the husband's writings and farewell note contained syntactically similar structures, such as

long sentences strung together without punctuation and the omission of prepositions. In the wife's writings, such errors were rare. Punctuation comparisons similarly pointed to the husband's writings as most closely resembling the farewell note in style. Apparently no other evidence, including psycholinguistic clues, was available, and following the testimony in court regarding these stylistic (or linguistic) comparisons alone, the man admitted to having written the farewell note and pleaded guilty to manslaughter.[19]

Such stylistic analysis has, unfortunately, been criticized for its appearance of subjectivity, and for other reasons has often not been admitted into court. The issue of admissibility of such evidence and testimony is the subject of the next section.

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[1] Note that the linguistic definition of a transcript is more general than would be recognized by the legal community. Furthermore, Walter Lewis notes that the three-part interaction illustrated here is simply the style of one lawyer, not a general principle of interaction (as Eades maintains), which would normally follow the traditional question-answer, question-answer format (personal communication, June, 2002).

[2] This may be for a variety of reasons. For example, the transcripts themselves may have been clear; the attorneys may not have recognized the linguistic ambiguity; or the attorneys may have felt that a linguistic argument would be too technical for the juries involved. Although Lewis does not specify, he implies that forensic linguists were not needed because the transcripts were clear, or at least easily interpretable by the court in each case. He does note, however, that audio experts have been called upon when background noise on tapes has made hearing the words difficult (personal communication, June, 2002).

[3] It is not clear from the literature reviewed for this thesis how Coulthard determined this tendency of juries to believe or not believe defendants or police officers.

[4] Shuy seems to imply that many alterations are indeed subversive or intentional, and therefore prejudicial toward the defendant.

[5] It was not stated explicitly by these sources, but suggested, that notes were not taken at the time of the interview, but rather recorded later from memory.

[6] Lewis notes that police officers would be highly unlikely to claim that their written records of verbal statements are in actuality verbatim, and if they did, they would be criticized upon cross examination (personal communication, June, 2002).

[7] Of course, it will never be known whether the defendant was in actuality lying or not. Lying to save oneself can admittedly be a strategic move by a defendant.

[8] Whether the police do so deliberately is unclear, although it seems to be implied by some forensic linguists. In some cases it may be true, but care must be taken to avoid a blanket statement.

[9] Gibbons (1990) writes on cases in New South Wales and Blackwell (1996) on British legal procedures. Lewis states that in the U.S., at least in L.A. County, statements are tape-recorded and thus are in fact verbatim (personal communication, April, 2002).

[10] The term discourse refers to both written text and spoken conversation or monologue. However, for the purpose of this discussion, the focus will be on spoken discourse analysis.

[11] Threatening phone calls could also be included in this category, but because the linguistic analysis of such calls generally involves identification of the caller rather than analysis of a conversation, such linguistic evidence will be considered separately.

[12] Dr. Herbert Purnell, Professor and Department Chair of TESOL and Applied Linguistics at Biola University, notes, "Linguists deal with acts within [speech] events: offers, promises, denials, orders, etc. It is up to lawyers to determine whether these language acts have been committed and thus

constitute bribery or [other crimes]. The linguist can have an opinion, of course, but it will bolster or contradict one legal claim or its denial" (personal communication, May, 2002).

[13] Shuy does not address the fact that reason for suspicion is prerequisite to such recordings.

[14] According to Lewis (personal communication, June, 2002), the jury is told in the district attorney's opening statement that the agent is attempting to record the defendant committing a crime. Therefore the jury would necessarily understand the different conversational aims of the agent and the defendant.

[15] See Shuy (1984) for other strategies which he claims the government uses in entrapment cases.

[16] Whether language variety differences are distinguishable to the naked ear and thus not merely stereotypes is a matter of theoretical controversy. John Baugh of Stanford University is researching "unlawful housing discrimination based on speech," and the results of his study will no doubt shed light on this issue (http://www.stanford.edu/~jbaugh/).

[17] Anthrax was sent to other destinations, as well, but the analysis here involves only these three letters.

[18] FBI investigators use a psycholinguistic approach in suspect statement analysis, wherein the grammatical elements of verb tense and pronoun use are included in criteria to "detect deception" (Adams, 1996, par. 3). This type of psycholinguistic analysis is not addressed here.

[19] Manslaughter was a much lighter sentence than murder, which he apparently did commit, so he still "got off light" (Purnell, personal communication, May, 2002).

PART THREE

THE NEED TO IMPROVE CREDIBILITY IN THE LEGAL COMMUNITY

REASONS FOR LACK OF RECOGNITION BY THE LEGAL COMMUNITY

Tentative Acceptance of Expert Testimony

Admissibility of expert evidence in court.

History of expert testimony in general.

Historically, experts testified primarily for the prosecution, potentially suggesting a lack of impartiality on the part of expert witnesses in general (Hollien, 1990). They were not trained in courtroom procedures or often even in their purported areas of expertise. Thus their value in court has been a matter of debate for some time. The reticence of the courts to accept linguistic evidence or testimony in court may be likened to a similar resistance to psychological assessment in court. Because of the need for scientific rigor in establishing a reasonable doubt, "compelling evidence may be barred from court if doubt is shed on the integrity of its collection" (Elliott, 1998, p. iv). Note that the legal community was slow to accept forensic psychological assessment because of the lack of methods proven to be scientifically reliable and valid (Elliott). It is not technically a legal condition of admissibility, however, that expert testimony be "so strong that it alone would create a reasonable doubt that the defendant is guilty of the crime charged" (Lewis, personal communication, April, 2002).

In addition, there is a traditional divide between science and the courts in weighing expert testimony against eyewitness testimony, both of which have "inherent weaknesses" (Lewis, personal communication, April, 2002). Both

forensic psychologists and linguists would criticize the court's valuation of eyewitness testimony, which has been demonstrated to be unreliable due to the suggestibility and imperfection of human memory (Elliott, 1998; Loftus, 1998; Solan, 1990). From the FL perspective, the court values eyewitness testimony over expert testimony, while linguists and psychologists alike value science in the form of expert testimony (Rettig, 1990). From a legal perspective, on the other hand, expert testimony is regarded more sceptically because it is necessarily funded by one side or the other, suggesting inherent subjectivity, as will be further discussed below. However, the linguistic claim that the court values eye witness testimony (which may be based on the momentary witnessing of a crime) is misleading, as there must be other evidence corroborating the testimony of a single eyewitness, for example. As Lewis states, "It is not the category of evidence (direct or circumstantial), but . . . the quality of evidence that matters most" (personal communication, June, 2002).

According to Rieber and Stewart (1990), while it may seem that expert testimony is a relatively new addition to the courts, it is not: "Engineers were giving expert testimony in trials by about the middle of the [nineteenth] century" (p. 2), and chemistry, ballistics, medicine, and psychology followed suit. In general, however, there has been an increasing acceptance of expert testimony in the courts, perhaps at least partially due to the influx of modern technology and resultant complication of all arenas of everyday life (Rieber & Stewart). The courts have come to depend more heavily upon scientific evidence in general

(Huntley, 1990). At the same time, "The traditional language training and intuitive abilities of law practitioners are no longer a match for the theoretical and analytical advances that are forthcoming from such linguistic subfields as syntax, semantics, and discourse analysis" (Rieber & Stewart, 1990, p. 3). Rieber and Stewart observe the irony that although many legal questions involve language matters, language experts are "underutilized" (p. 2) compared to psychological or other experts admitted for their related expertise.

History of forensic linguistics in court.

An understanding of the admissibility of forensic linguistic evidence and/or expert testimony in American criminal trials would undoubtedly be incomplete without an examination of some cases in which such evidence was considered. Unfortunately, all of the cases found in the literature relate specifically to linguistic evidence, but not to the admissibility of linguistic expert testimony per se. While such expert testimony may be found in the literature in other countries (such as in the U.K.), nothing was found (for this thesis) in American legal history referring to expert FL testimony in court cases. This fact itself would seem to speak strongly of the fledgling state of the FL testimony in the legal arena.

The *American Law Reports*, 4th series (specifically, 36 A.L.R. 4th 598), a key source for a survey of this history, defines forensic linguistics as inclusive of "matters relating to linguistic or typing style . . . as relevant to the issue of the identity of the author or typist of a document where such identification is material

to the case" (A.L.R. 4th, p. 599, §1[a]). Author identification here pertains equally to identifying a specific author and eliminating the likelihood that a suspect is the author of a communication (p. 599, footnote 1). Evidence relating to "linguistic and stylistic habits and abilities of the purported author" (p. 601, §2) may be presented by the expert for the jury to interpret at its discretion. Cases where the admissibility of forensic linguistic evidence has been discussed specifically involve the following:

> spelling and punctuation . . . syntax, grammar, or style . . . vocabulary or use of distinctive words . . . and the like . . . has been sought to be presented both in the form of ordinary, documentary evidence, from which the jury may draw its own conclusions, and as expert or opinion evidence, in which a person shown to have experience in the field or to have special knowledge of the putative author or the materials in question presents both the evidence and his or her own conclusions as to the significance thereof to the jury. (A.L.R. 4th, p. 601, §2)

One case significant because of both lower and appellate court rulings on the admissibility of linguistic evidence in court was *U.S. v. Clifford* 704 F2d 86 (1983). The defendant, a former police chief in Pennsylvania, had been arrested for sending threatening letters to the new police chief in his town (Miron, 1990). Pickett, the government forensic linguist (or specifically, aural analyst) in the case, conducted stylistic comparisons of the threats and known writings of Clifford, and found idiosyncratic "spelling, abbreviation, syntax and paragraph structure" (704 F.2d 86, 1983, p. 87[1]) to be similar enough to suggest a common author.[2] Judge Simmons ordered a preliminary hearing, also called a Daubert hearing, to inspect the "legal status of linguistic testimony" (Miron, 1990, p. 59), and called in other expert witnesses to testify. Miron presented a

"conservative interpretation of the value of 'forensic linguistics' [sic]" (p. 63), stating that a jury would need the assistance of an expert to consider the weight of different aspects of the linguistic evidence in the case. Furthermore, the experts involved in the case concurred that linguistic evidence is not intended for court testimony, but for "investigative guidance only and not for positive identification" (Simmons, 1982, IV, Discussion, par. 11). Miron also indicated that larger samples were needed for a positive proof. Simmons concluded that "the 'Forensic Linguistic Analysis' methodology was insufficiently advanced as a trustworthy art to warrant its submission with or without an expert" (Simmons, II. The Forensic Linguistic Method, par. 5). In searching for precedents of linguistic evidence in court, the judge noted that in *U.S. v. Hearst* 412 F. Supp. 893 (N.D. Cal. 1976) the court did not admit psycholinguistic evidence because:

> the state of the art of psycholinguistics was such that it had not achieved such general acceptance among psychological and scientific authorities to justify its admission. To allow its admission would therefore have created an unjustifiable "aura of special reliability and trustworthiness." (Simmons, IV, Discussion, par. 9[3])

In the six years following that case, Simmons decided, the state of that art still lacked scientific authority. The appellate court in the Clifford case overturned this decision, noting, "A piece of evidence, however, need not conclusively prove a fact beyond a reasonable doubt in order to be admissible" (704 F.2d 86, 1983, p. 90). Furthermore, the court ruled, it is the job of the jury "to weigh the credibility of witnesses, resolve evidentiary conflicts and draw reasonable

inferences from proven facts" (704 F.2d 86, 1983, p. 90, quoting *U.S. v.Young,* 573 F.2d 1137, 1978).

The appellate court in the above case referred to *U.S. v. Larson* 596 F.2d 759 (1979)[4] (further discussed below) as a case in which linguistic evidence was admitted. It also cited *U.S. v. Pheaster* 544 F2d 353 at 371-72 (1976),[5] in which the court decided that spelling comparisons of disputed texts with known texts "would be admissible as tending to show that the same person was the author of both documents" (A.L.R . 4th, p. 602, §3[a]). In that case, the defendant was required to provide a sample of his handwriting to the court (from a dictation). This ruling legitimised "compulsory self-incrimination" of handwriting exemplars (p. 601, §3[a]). As Lewis notes, however, this was not likely "the first case that ruled a defendant did not have a Fifth Amendment right to refuse to give a handwriting exemplar," as defendants traditionally cannot refuse to give samples of blood or urine and so forth (personal communication, April, 2002). The Fifth Amendment relates to the right to silence, or not talking, but not to supplying samples, standing in line-ups, or even handwriting exemplars. Refusal to produce such an exemplar may result in the prosecution commenting on this lack of cooperation to the jury (Lewis).

Several other relevant cases are cited in A.L.R. 4th, only a few of which can be mentioned here, but all of which directly involve only linguistic evidence, not expert testimony. Thus, while linguistic evidence has clearly been allowed in court over the last century, the admissibility of testimony from linguistic

experts is less certain. In *Bartholomew v. Kent* (1916), for example, identical punctuation idiosyncrasies in comparison texts were admitted as evidence. In *State v. Kent* (1909), "graffitus" (p. 604) at a crime scene incriminated the defendant because of his unique habits of overusing a period, and his abbreviation and date-forming styles. Therefore, an author's idiosyncratic errors were admissible evidence.

Federal Rules of Evidence.

Federal Rule of Evidence 702 states:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise. (Cornerstone Research for the Record, 1999)

There are (as delineated by Shuy, 1993) three basic tests of the expert proposed to testify in court:

1. A test of "whether the discipline of linguistics is grounded in sufficient scientific, technical or other specialized knowledge to warrant its use in the courtroom" (p. xx). The scientific (or specifically, linguistic) theory involved must pass the test of having been tested and being testable, as well as "subjected to peer review or publication" (Garner, 1999, p. 401). The "potential rate of error" must also be specified (p. 401).
2. A test of "whether the proposed linguist-witness is a qualified expert in this discipline" (Shuy, 1993, p. xx). The expert, as well as his/her theory, must be accepted within the scientific (linguistic) community. How the courts

determine the "relevant scientific community" (or discipline) supporting the methods or analysis of the expert can be a matter of the judge's discretion (Winitz, Wyrsch, & Riddle, 1990, p. 126). It can be particularly ticklish if a controversial method is proposed, such as voiceprinting (Huntley, 1990; Winitz et al., 1990).

3. A test of "whether the application of linguistic analysis to the evidence in the case will assist the jury in understanding that evidence or in determining a fact in issue" (Shuy, 1993, p. xx). If the judge is unconvinced that linguistic testimony and/or evidence would assist—and not confuse, bias, or otherwise confound— a jury's decision, the expert/evidence will not be admitted to trial. This last criterion carries heavy weight in the judge's decision, since he/she must decide whether the expert testimony is helpful enough to justify the possible bias introduced by scientific testimony (Pickett, 1993; Shuy, 1993).

The determination of whether an expert witness or the evidence thereof passes the three tests is at the discretion of the judge in any given case, under the conditions of Federal Rule of Evidence 403. Rule 403 states that "a trial judge may exclude relevant evidence when its probative value is 'substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury.'" (Simmons, 1982, IV, Discussion, par. 1). This determination takes place in a Daubert hearing, or during the voir dire examination. Because admissibility depends entirely upon the judge's discretion,[6] an appeal based on the rejection of expert testimony is unlikely to

be upheld (Solan, 1990). However, such a decision can be appealed and overturned in cases where the discretion of the judge in the lower court is shown to have been abused (*U.S. v. Clifford,* 704 F.2d 86, 1983).

In *U.S. v. Larson* 596 F2d 759 (1979), the forensic psycholinguistic expert was excused in the voir dire hearing after his illustrious but highly technical calculations were dismissed, presumably on the basis of Rule 403. The jury in the kidnapping trial was subsequently allowed to examine the evidence without the benefit of expert testimony (A.L.R. 4th, §3[a]; Miron, 1990). The jury matched the spelling of approach (as "approuch") in the ransom notes with the same in "a letter previously written by the accused to his Pardon Board" (A.L.R. 4th, §3[a], p. 602), and found the defendant guilty (Miron, 1990).

Conflicting testimonies of experts.

Trials allowing expert testimony have been decried as "a battle among the experts" (Hollien, 1990, p. 33, quoting a lawyer). Both judges and juries may view expert testimony with suspicion as simply representing and thus advocating whichever side has hired it (Hollien), or as giving the aura of science which may by common sense deduction (even without consideration of Rule 403) have a prejudicial effect (Solan, 1990). This issue is addressed in greater detail in Part Four.

The Inability to Produce Legally Acceptable Findings

The assumption of native speaker linguistic expertise.

Because law is "an inherently rhetorical activity" (Chimombo & Roseberry, 1998, p. 265), lawyers have historically tended to consider themselves experts in the matter of language (see also Finegan, 1997). They have traditionally also solved questions revolving around language without the assistance of a language expert (Rieber & Stewart, 1990). In Germany, for example, judges consider themselves competent to decide in cases of libel and slander, although they may admit linguistic testimony in cases of anonymous letters (Kniffka, 1996b). Yet, as forensic linguists have sought to demonstrate, "it is not always easy for people not trained in linguistics to organize language facts in a coherent and useful way" (Solan, 1990, p. 110). As Shuy (1984) simply puts it, "most juries, judges and attorneys are not trained in language analysis" (p. 215), and even the tapes (of a purported language crime) do not "speak for themselves" (p. 216). Solan, linguist and lawyer, argues for the admittance of expert testimony "even when the expert testimony is nothing more than a coherent presentation of the linguistic facts" (1990, p. 110). In addition, Solan claims, linguistic testimony can provide relatively neutral legitimacy to linguistically determined decisions, and help to avoid essentially intuitive decisions. From a trial attorney's perspective, however, such neutrality is undesirable if not impossible, for an expert is sought and hired on the basis of

an analysis favorable to the hiring side (Lewis, personal communication, April, 2002).

To consider how the course of justice may arguably be perverted by the absence of linguistic expert testimony, it may be helpful to examine a case in which such testimony was absent. In *People v. Brown* (1988) 45 C 3rd 1247, the defendant was convicted of murder, after which the question of his sentencing went to the penalty phase trial (Solan, 1990). Although he was sentenced to death, his case was appealed based on the ambiguity of this standard instruction (given to the jury in every criminal case) and jury's interpretation of it: "You must not be swayed by mere sentiment, conjecture, sympathy, passion, prejudice, public opinion or public feeling" (quoted in Solan, p. 110). The appellate court overturned the conviction, deciding that in the statement, it was unclear whether "mere" referred to "sentiment" or to the entire list, and so the defendant's "constitutional right to enlist the jury's compassion was violated" (p. 111). The California Supreme Court disagreed and reinstated the death penalty, with the majority opinion deciding that "mere" modified the entire list. In this case, linguistic testimony could have emphasized the ambiguity of the jury instructions, implying that as the rule of lenity specifies, the ambiguous statement "be construed in favor of the defendant" (p. 111). In the end, however, the United States Supreme Court "concluded that California's standard-form instruction to avoid 'mere sentiment, conjecture, sympathy, passion, prejudice, public opinion, or public feeling' does not violate the federal Constitution when

given at the penalty phase of a capital trial."[7] The case may illustrate how outside linguistic expertise could have helped clarify language matters and ensured a more fair trial. Such a conclusion may be countered, however, by pointing out the unlikelihood that a FL witness would be called to interpret a judge's instructions to a jury after a trial is already completed (Lewis, personal communication, April, 2002).

Even when linguistic expertise and analysis are presented at a trial, a judge may disagree and rule on the basis of her own language intuitions. In one such case the judge overlooked the linguistic evidence (provided by language testing) that a limited English proficiency defendant would not have been able to comprehend her Miranda Rights (Roy, 1990). The judge ordered the defendant, Angela, to the stand to be questioned without an interpreter, and although she answered several of the questions inappropriately, indicating her lack of comprehension, she was convicted. However, partly on the basis of the linguistic evidence (and the court transcript of the questioning without an interpreter), this ruling was reversed in the appellate court.[8]

The lack of empirical methods.

A frequent criticism of forensic linguistic methods lodged by the legal community is that of subjectivity. In *U.S.v. Clifford* (1982), for example, the court justified its exclusion of FL evidence by stating that "the forensic linguistic analyst uses his subjective judgment and expertise to assign a weight of significance to each particular difference [between compared texts], thus giving

rise to an element of speculation" (Simmons, 1992, IV, Discussion, par. 15). Thus, expert interpretation of data is necessarily equated with subjectivity. An additional factor supporting this criticism is the existence of conflicting testimonies of experts on the opposing sides of many trials. This latter accusation is unavoidably inherent in the adversarial legal system, and is further addressed in Part Four.

Forensic linguists themselves have offered varying responses to the criticism of subjectivity. Some admit, on the one hand, that linguistic analysis "cannot be expected to supply a linguistic proof by hard data of the type used in the natural sciences" but can be supported by the hard sciences (Kniffka, 1996b, p. 116). Kniffka adds, "what convinces colleagues does not necessarily convince judges or solicitors or vice versa" (p. 79). Davis (1996) argues on a more philosophical level, "Clues, you can say, are scientific in its [sic] deductive aspect; opinions are scientific in its [sic] inductive aspect" (p. 71), adding that expert knowledge would be difficult to quantify as scientific. In the U.S. Steel case (described in Part One), the linguists found that evidence presented in a more factual way (i.e., with readability measures) was better received by the judge than evidence appearing to be more interpretive or impressionistic (i.e., syntactical analysis of semantic bias) (Labov, 1998). While not directly commenting on the objectivity or subjectivity of the evidence, Labov seems to suggest that subjectivity in the eyes of the court may depend on the impression that analytical methods make.

On the other extreme, some linguists assert that their methods are by all means objective. For example, Eagleson (1994) declares that text features used for the comparison of texts do not depend upon the subject matter or content of the texts, and therefore that "these context-independent linguistic characteristics are . . . objective, yielding to verification by anyone subjecting the material to scrutiny. They do not depend on personal interpretation to produce results" (p. 363). Nonetheless, forensic linguists themselves call for more standardized methods and corpora for reliable, valid linguistic analysis (e.g., Coulthard, 1993).

Perhaps the matter of forensic linguistic subjectivity is, ironically, one of semantics. Forensic linguists obviously approach the analysis of language from a different perspective than the legal community, by virtue of the differing functions of language in the two fields. What is considered objective to linguists, then, may not appear to be objective to the legal community. Linguists make hypotheses and test them; for example, by testing whether an idiosyncrasy found in a text is truly unique, by making comparisons against a corpus or collection of other naturally occurring language data. This is the essence of the scientific method, and considered objective by the linguistic community. However, how they arrive at their hypotheses is no doubt unclear to the court, and thus may be dismissed as arbitrary. For example, Shuy's (1993) classification of the components of a Bribe Event, or any of several other discourse events, may seem arbitrary until one examines the means by which

he arrived at this classification, which was through repeated observation of the event. Because forensic linguists are venturing into the legal world, however, it is imperative that they conform to the culture of that unfamiliar world if they seek to succeed there.

In an effort to examine more specifically some of the methods used by forensic linguists, several methods found in the literature surveyed for this thesis will be considered. Each will be evaluated, as much as is possible with the given data, for its objectivity and applicability to criminal trials, as measured by court rulings (an imperfect indicator that should by no means be overstated, but a clue, nonetheless), peer reviews, and apparent reliability or validity of the methods. Ultimately, the "new or novel scientific techniques" used by forensic linguists will be subject to legal examination, as in that of the Kelly Test, which demands the sound scientific backing of expert evidence presented in court, and which has been used to test other forensic methods such as handwriting comparison, DNA profiling, and hypnosis (California Criminal Law Procedure and Practice, § 31.13).

FORENSIC LINGUISTIC METHODS: SUBJECTIVE?

Electro-Static Deposition Analysis (ESDA)

Electro-Static Deposition Analysis (ESDA) enables a document examiner to detect the "deposits" or indentations a writing utensil makes through a sheet (or few sheets) of paper superimposed on another page. Even

when the human eye cannot detect the indentations on underlying pages, the highly sensitive ESDA machine captures the image of the indentation and reveals it when developed into a print. Although ESDA captures indentations that escape even the older oblique light photography method, the latter technique can sometimes be used to confirm ESDA results (Jasuja & Singla, 1995). ESDA is apparently able to pick up indentations that are too shallow for oblique light photography to detect. By determining that, for example, page five of a document actually was indented by the writing of page three, it might be hypothesized that page four was written after the original document was made. This would be particularly possible if no such indentations (of page three) were found on page four. In such a case, page four could have been fabricated and inserted between the other two pages after their writing. As described earlier, a police record of a suspect statement in such a case can be shown to have been altered.

Such evidence may aid in supporting other linguistic evidence that part of such a text was fabricated (Varney, 1997). For example, Coulthard (1992, 1996) describes a 1989 case in which the only two "incriminating utterances" (1992, p. 244) in the police record of an interview with a Paul Dandy were determined to have been fabricated. Stylistically, the two utterances lacked "coherence and cohesion" with the previous and subsequent utterances, and ESDA indicated that the disputed text had in fact been written on top of an

earlier identical version without the two added utterances. In this case, the defendant was acquitted (or so Coulthard implies) on the basis of this evidence.

Davis (1996), a forensic handwriting analyst in the United Kingdom, participated in a later more complicated case in which ESDA was utilized in combination with other linguistic analyses as evidence. In 1991, Anthony Constantine Wellington appealed his 1989 conviction of armed robbery of the Witton post office, which he had denied, although he had admitted to some other offenses. He confirmed the accuracy of five of the eight pages of contemporaneously written police records of his confession, but disputed pages five through seven. Linguistic analysis revealed that pages one through four contained a coherent whole that was stylistically very different from pages five through seven, and that the information given on pages five through seven had in fact been provided by another suspect, suggesting that the police had already had this information, (and Wellington denied having supplied it).

ESDA bolstered this deduction by showing the complicated sequence of pages written in the police record. It was surmised that pages five through seven were taken out of the room and written separately. The first four pages and some blank sheets underneath would have been flipped over, then pages five through seven written on the upside down four sheets, then re-ordered and taken to Wellington to sign (on the bottom corners of each page fanned for easy signing without reading the pages, the first four of which Wellington had already read earlier). In the end, Wellington was released from prison. Interestingly, in

this case inspectors had used ESDA multiple times on the documents before discovering the evidence that came to light after repeated examination (Davis, 1996).

The need for repeated tests in the above case highlights what is suggested in the forensic science literature on ESDA, that clear results are somewhat conditionally determined; and much experimentation has been conducted to identify these conditions. One such condition is "some degree of lateral motion between the object causing the impression and the paper surface" (Strach, McCormack, Radley & Westwood, 1995, p. 195). By contrast, typewriters create little to no ESDA-detected impression because of the lack of rubbing together of the two surfaces. In addition to the motion conditions, "electrostatic properties of paper, which allow indented impressions to be detected by the ESDA technique, can be affected by, for example, small quantities of moisture, excessive humidity, glue, perspiration, and by general handling or bending of paper" (Radley, 1993, p. 70; also, Seward, 1999). In the Wellington case, investigators conjectured (before the critical findings in the case) that "repeated handling" could have affected the ESDA results (Davis, 1996, p. 58, quoting David Baxendale, the police investigator in the case). Similarly, it has been found that ESDA impression quality may vary depending on the analyst's manipulation of the ESDA transparency (Radley, 1993).

Other experimentation with ESDA has shown that not only "primary impressions" made by paper written on top of each other, but also "secondary

impressions" may be discerned by ESDA (Strach et al., 1995, p. 194). When a page is not written on top of another but separately, and is then stored under another page, secondary impressions can be created. This could happen if the top page was written with heavy pressure and there had been some "relative motion" between the two pages (p. 200). ESDA detection is also affected by such factors as paper thickness, writing surface, type of motion, and type of ink. Strach et al. claim that differences between primary and secondary impressions can be discerned by the examiner familiar with these differences (see list in Strach et al., pp. 203-204).

In addition, ESDA has also been used to identify traced forgeries. Such forgeries were produced by filling in "an indented outline of a model signature" that was placed over the forged document (Jasuja & Singla 1995, p. 25). Traced forgeries are betrayed by disrupted flow of writing in points of heavy or irregular pressure, making disconnected lines, and other telltale signs. ESDA may also show up indented lines that the forger missed in the forgery, which appear in ESDA prints as fuzzy lines next to the main signature.

Examiners may use ESDA in conjunction with other technical analyses such as ink or line width analysis, as in a 1984 United States case revolving around a disputed government document and the death of a contractor (Fortunato & Stewart, 1992). Examiners in the Secret Service Forensic Laboratory first used oblique light photography to determine whether the challenged Remarks section of the document had been added. Because this

test revealed nothing, ESDA was used and showed that only one sentence or paragraph in the Remarks section indented onto the following page in each of the series of questioned documents. Line width analysis confirmed that the other parts of the Remarks section (not leaving impressions) "had been written at a different time, under different conditions, and/or with a different writing instrument from the rest of the documents" (p. 1705). It was thus determined that the government construction inspector had falsified the reports.

While much of the use of ESDA has not involved linguistic analysis, its acceptability within the justice system is clearly shown by its use within government agencies. Furthermore, it serves as an additional empirical confirmation of other linguistic conclusions. A further merit of ESDA is that while it may produce "false negatives", failing to show indentations in less than ideal conditions, it does not show "false positives" (Radley, 1993, p. 71). The literature suggests that while it is not yet an infallible method in all conditions, it is valuable in shedding light on cases of disputed authorship and forgery.

Disputed Authorship Index (DAI)

A disputed authorship index (DAI) is a calculation of the probability that a disputed text shares the same author as comparison texts by a known author. Reference to DAI was found in only one source reviewed for this paper (Miron, 1990), so it is unclear whether the method is in common use, or is representative of the many formulas used by linguistic analysts (some of which are referred to elsewhere in this thesis). DAI involves a "ratio of the correlation

for combined a priori and observed frequencies across known and unknown texts to the correlation of these same probabilities within both the known and unknown texts considered separately" (p. 57). In other words, the likelihood of a frequency of, for example, the use of the word "van" would be compared with its actual usage and calculated for both known and unknown (or disputed) texts. Psycholinguistic analyst Miron argues that such theoretical probability or similarity is an essential prerequisite to comparing known and disputed texts. However, he wryly describes a case in which expert testimony was eliminated during the voir dire examination due to the mind-boggling complexity of his calculations performed in an effort to convince the court of the need for such expert insight (Miron; see summary of *U.S. v. Larson* above, from p.69). Rather than benefiting from linguistic expert analysis, the jury found the defendant guilty of kidnapping based on jurors' own novice linguistic observation of the common misspelling of a word in the disputed and comparison texts. Had such misspelling been merely coincidental, it would have truly been an injustice, although Miron does not comment on this. It should be noted that more than just a single instance of misspelling would be necessary to provide sufficient evidence as to whether or not it might be coincidence.

Perhaps the mention of DAI here serves mainly to demonstrate that linguistic methods must be presented to the court in such a way that does not tire or antagonize the court with excessive calculations and statistics, yet clearly demonstrates the expertise of the linguist directly relevant to the case. No

attempt will be made here to analyze this method in any great depth, since so little detail is given in Miron.[9]

Cumulative Sum Analysis (QSUM)

Cumulative Sum analysis (CUSUM) is a general mathematical formula and graph-producing method used in analyzing data in numerous disciplines, such as the economic or business sector, where it has been used to evaluate productivity. In forensic linguistics, CUSUM analysis is referred to by its proponents as QSUM (within articles, although not in book titles) to indicate the FL adaptation of the method (although critics seem to alternate between the two abbreviations). In this paper, the abbreviation QSUM will be used unless quoting. QSUM has been used in court in cases of disputed authorship, such as disputed police records of suspect statements.[10] The forensic utilization of the technique was apparently first propagated by Andrew Morton, whose use of stylometry (literary stylistic analysis) was attacked for failure to have been verified in its application to forensic texts (Hardcastle, 1993).[11] According to critics, however, QSUM in its present form is no better.

Morton's QSUM involves placing two graphs over each other and, based on how many or how large the separations or differences in the two graphs are, determining whether they represent single or multiple authorship of the text. One of the graphs is a line representing the QSUM of sentence length, derived from the average number of words per sentence minus the length of each individual sentence, plotted on a histogram and then connected with a line. The

other graph comprises the cumulative sum of the average number of "habit" words per sentence, calculated in the same way as the sentence length graph. Habit words, Morton claims, include short words of two to three letters (classed "23lw") and vowel-initial words (classed "ivw"), which supposedly remain relatively consistent in an author's spoken and written language, with no differentiation between the two. A scaling factor based on "the ranges of values observed in each CUSUM line" (Hardcastle, 1993, p. 105) is then applied to adjust the graph size. The whole calculation process may of course be facilitated with a relevant computer program. If the two resulting graphs nearly line up but not exactly, the transparencies on which they have been drawn may be turned manually to match them up and create the QSUM chart for the text in question.

As mentioned, several criticisms have been lodged against this method. First of all, it ignores the inevitable differences between spoken and written language present even in the same author, claiming that the results will be consistent regardless, and ignoring general linguistic theory to the contrary (Hardcastle, 1993). QSUM proponent M. Farringdon (1996a) counters that spoken language features such as pauses, stutters, filler words, one-word answers, and so forth, are edited out in the analysis. QSUM proponents also seem to indicate that the stylistic differences (in sentence length, word choice, and so on) between spoken and written language do not affect test results,

because what is calculated is habit or word class use (see below), which does not relate to style.

Secondly, Morton's claim that frequency of word class use (i.e., short words, vowel-initial words, nouns, and verbs) can identify difference (or sameness) of authorship has no theoretical grounding (Hardcastle, 1993). To the criticism of lack of theoretical basis, M. Farringdon (1996a) responds that "It is too early to provide a theoretical scientific explanation as to why the technique succeeds" (p. 241),[12] likening it to the history of fingerprinting. After a brief discussion of how "short words" and vowel-initial words are not problematic with regard to subject matter, Farringdon states that space would not allow for full "consideration" of the matter, but that critics cannot "deny the evidence" (p. 253).

Other criticisms relate to the apparent manipulation of data, which does seem problematic in a reading of J. Farringdon's (1996a, 1996b) explanation of the method which appears in a collection of proponent writings on QSUM. One such criticism is that the scaling factor distorts the shape and size of each graph, resulting in a muting of otherwise notable separations (prior to scaling) (Barr, 1998). Another is that the manual moving of transparencies is highly subjective and unreliable. Furthermore, determination of the significance of line separations is done by simply eyeing the chart, which may also result in subjective and inaccurate interpretations (Hardcastle, 1993). M. Farringdon (1996a) repeatedly counters these criticisms by stating that critics have handled

the data and applied the technique incorrectly. However, it should be questioned how truly objective a method is if its application is mistaken by so many linguists that correct results seem unreplicable. Because of its lack of recognition by the relevant field of linguistics, QSUM would not be admitted in U.S. courts.

Several criticisms relate not only to calculations and graph handling, but also to interpretation of the data. For example, if values in either graph line are particularly high or low, resulting in separations (as opposed to smaller "anomalies," or "ab-normal utterance[s] in quantitative terms," J. Farringdon, 1996b, p. 17), the text may be judged to have multiple authors, even if the distinctive sentences were in fact uttered by the same author. Hardcastle actually demonstrates this using three of Morton's own written texts and one spoken text, a court transcript. In the spoken text, Morton's use of short words was inconsistent with that in the other texts, suggesting, by Morton's own standards, different authors.

It is important to emphasize (as noted in Part Two) that court transcripts should not be assumed to provide precise records of what was spoken in the actual utterance. QSUM proponents stress the importance of starting with accurate data for reliable results (M. Farringdon, 1996a, 1996b). However, even beginning with accurate data does not, according to critics, prevent its misinterpretation. For example, QSUM proponents have claimed that a portion of Galatians in the Bible was likely added later because of the inconsistencies

within the text. Instead, the graphic line separations of this portion (Galatians 5:13 to 6:7) may be explained by the inclusion of a quotation, a list, and other features not necessarily indicating different authorship (Barr, 1998).

In addition, Barr (1998) notes that normal ranges of QSUM values for neither single authors nor different authors have been tested. Such comparisons would possibly lend credence to the claim that QSUM charts can in actuality reveal mixed or single authorship. Even Morton (1996) has admitted, according to Barr, that sentence length differences do not necessarily indicate different authors. If so, it should be questioned whether the reverse is true, either.

Although further and more technical criticisms are also made, it may be concluded that based on peer reviews, the QSUM method used in comparing texts for forensic purposes fails to meet standards of scientific rigor, at least in that the technique appears to be difficult to replicate (although proponent J. Farringdon states that the method merely requires practice, see 1996a). QSUM demonstrably manipulates subjective measures to arrive at conclusions that may potentially have a dire impact in criminal justice. Perhaps its proponents might begin by seriously re-assessing the claim of language habit classes that on the surface fall short of any theoretical justification. Other calculations and the creation and scaling of QSUM charts similarly need greater theoretical backing, and statistical programs may assist toward this end. Finally, if even these adjustments fail to improve the validity and reliability of the method, a

different representation of the data (rather than superimposed line graphs) might be used. As suggested in the literature, surveys of texts of similar and different authorship should be accumulated, and acceptable versus suspicious ranges of variation determined to create standards for comparison. Until such changes are made, QSUM will no doubt continue to be the brunt of both attack within the field and non-acceptance from without, or worse, the culprit of inaccurate conclusions about authorship.

Type-Token Ratio (TTR)

Type-Token Ratio (TTR), a psycholinguistic indicator of language behavior, is calculated by dividing the number of types (different or unique words) by the number of tokens (total words) in a statement. For example, in the statement, "I talked to the lady in the next apartment about her cat", with 11 types and 12 tokens, the ratio is 11:12 or .92. For statistical purposes the decimal may be dropped to yield a TTR of 92. In psycholinguistic literature, TTR is calculated to measure lexical diversity and so characterize language behavior, and a high TTR claimed to signify arousal in the brain and possible deception (Carpenter, 1990; Elliott, 1998). A low TTR may also indicate questionable truthfulness.

Rather than using a single sentence, as in the example above, however, Carpenter (1990) has determined that TTR computations should be made with 100 word segments (divisions) of transcripts, unless such large samples are

unavailable. Any sample with fewer than 25 words would yield fairly meaningless results. To test for deception, or Machiavellianism (Carpenter) or prevarication (Elliott), the TTR of a segment is compared with other segments, and any unusually high or low TTR taken to suggest deception. In Carpenter, TTRs of various segments of a transcript are compared with other segments of the same speaker's testimony or statement. Such segments should be no less than 50 (Elliott) or 100 (Carpenter) words long, to ensure meaningful results. "TTRs deviating from that individual's personal mean and quantifiable as statistically significant" or of "particular interest" (with a standard deviation of +2) and "noteworthy" (for SD=+1) are inspected for content, as they may contain information related to the crime or spoken to cover up the speaker's involvement in a crime (Carpenter, 1990, p. 8).

In two sources obtained on the topic, TTR was used to measure lexical diversity and indicate deception versus truth-telling; however, the standard for comparison differs. Carpenter (1990) maintains that a suspect's anomalous TTR (lexical diversity) should only be compared with his own average and not with that of other speakers, since each person will have his own lexical norm in any given situation, and it may differ situationally; during a trial or interrogation, arousal is obviously likely to be higher than when in other situations. On the other hand, Elliott (1996) cites other authorities in the literature indicating that TTR should be measured against that of statistical norms. For example, one authority states that "truthful statements" are generally over a TTR of 60, while

another indicates that the TTR of "liars" is an average of 65, and that of "truth-tellers" is 59 (Elliott, p. 21). In other literature Elliott cites, TTRs in the upper twenties may be considered either truthful or deceptive.

This leads to another dilemma, of whether high or low TTRs (or both) are indicative of deception. Most of the sources cited by Carpenter (1990) and Elliott (1996) seem to indicate that high TTRs indicate deception. Careful phrasing somehow allows, in the milliseconds used to compose responses and avoid incrimination, the incorporation of unique words not usually chosen by the individual in other circumstances. Carpenter (1990) tends to dismiss unusually low TTRs as being insignificant. However, he concedes that if a suspect were to rehearse a testimony, he might produce an utterance with a low TTR. The low TTR would result from stereotypy, or choosing phrasing most familiar and least risky. This would be compensated for, however (according to Carpenter), in the cross-examination when further, presumably unrehearsed, elaboration is elicited. The obvious flaw in this argument, however, is that if a defendant or suspect had sufficient time and intelligence to anticipate any number of questions and rehearse his answers, he might still be able to produce utterances with normal or low TTRs (albeit unconsciously, as people are unable to consciously alter TTRs which are affected by such things as pauses and fillers).

In Elliott's (1996) experiment (conducted as a contribution to psychological credibility assessment within the law enforcement arena),

subjects witnessed a staged crime. One group instructed to lie were questioned immediately after the event and found to produce high TTRs, as they carefully worded their answers to construct their stories. Another sample instructed to lie were questioned weeks later and had even higher TTRs, and it was surmised that they had rehearsed their stories for presentation. A third sample of truthful witnesses had low TTRs when questioned immediately following the event, as they attempted to reconstruct what had happened and stumbled over pauses and fillers in their reports. Oddly, however, the fourth group, also honest reporters, had very high TTRs when questioned weeks later, perhaps because they also had rehearsed what they had concluded to have been the logical order of events in the scene. Within the deceptive group's stories, little fluctuation in lexical diversity was found throughout, contrary to Carpenter's (1990) claim that TTRs vary within a speaker's own statements and that this indicates deception or truthfulness.

While both of the sources reviewed refer to the use of TTR as a language behavior and truthfulness indicator potentially of use to law enforcement, neither indicates that it has been so utilized yet. However, Carpenter describes several cases in which the results of TTR analysis of language evidence (transcripts of courtroom testimony or police interrogations) coincided with the findings already determined by the court, thus reinforcing the reliability of the approach. Summaries of such cases should be prefaced with the acknowledgement, as mentioned elsewhere, that even court transcripts may not

necessarily accurately record the original utterances and thus provide somewhat less than ideal evidence. Secondly, since it seems unresolved whether an individual's lexical diversity (measured by TTR) should be compared within his own speech production or with that of other speakers, the linguistic breakthroughs in the following cases are still debatable.

Nonetheless, one such U.S. case described in both Carpenter (1990) and Elliott (1996) concerns a man charged with the robbery and murder of his grandmother. The transcript of his interrogation by police investigators was divided into 50-word segments (and segments under 50 words in length ignored to avoid distorting TTR calculations). For every 50 words, his personal average number of types was 36, yielding a mean TTR of .72. His statistically determined "standard deviation for the interrogation" was .07 (Carpenter, 1990, p. 8). Throughout the transcript, statements that could be verified, or were not in any way related to the crime, had TTRs close to or below the suspect's personal mean (for example, description of his friends yielded a TTR of .74; description of his clothing on the day he last saw his grandmother was .60 TTR). Eighteen of the 111 segments analyzed yielded TTRs of one standard deviation above the mean (SD=+1), and each of these noteworthy segments were potentially incriminating if disproved. Equivocation about the amount of money he had deposited in his bank account immediately after the day of her death, for example, yielded a TTR of .84.

Statements of particular interest, or two SD above his mean, were in fact the most potentially incriminating of all, including explanation of why he had his grandmother's safety deposit bag in his possession (TTR=.88) and his description of waving goodbye to his grandmother when he left (.90), which obviously would not be true if he had killed her. Based on the evidence of the suspect's highest TTR in the description of his final fifteen minutes with his grandmother, Carpenter (1990) concluded that during this time span the suspect had in fact killed his grandmother. When the linguists reported this finding to law enforcement, they were told that the suspect had already been found guilty of the murder, which an overhearing cellmate's testimony confirmed had occurred in the last minutes before he left his grandmother's house. Thus, Carpenter notes, the verdict, while not necessarily proving guilt, lends strong support for the TTR statistical calculations of a statement.[13]

Another case mentioned by Carpenter (1990) involves two testimonies by the same individual in hearings six weeks apart. Analysis of the court transcripts revealed a mean TTR of .71 in the first testimony and a TTR of .68 in the second. In the second testimony, there was apparently less fluctuation in TTR. This continuity and the lower TTR are taken to reflect the fact that the individual had been granted some level of protection from prosecution in providing the testimony the second time, indicating less fear of incrimination and thus less hesitation, and resultant lower TTR. It may be debated, however, whether the difference between a mean TTR of .71 and .68 is statistically

significant enough to draw conclusions, particularly since, as Carpenter mentions, the witness had six weeks to rehearse his testimony.

In conclusion, it seems that TTR could provide helpful evidence in collaboration with other evidence in criminal trials. However, several aspects of the theory must be clarified before it can be expected to gain scientific and legal recognition. First of all, while it seems generally agreed that relatively high TTRs may have significance and indicate deception, what low TTRs signify requires further exploration and clarification. Secondly, whether it is more accurate or meaningful to compare an individual's TTR among segments of her own speech, or with that of other individuals (based on such trends in the literature) needs to be clarified. Third, while 50 to 100 words has been the accepted norm of length of segment for analysis, guidelines for how to divide up such segments in a meaningful way needs clarification, as suggested by Elliott (1998). Fourth, it would seem prudent to gather more empirical data of TTR analyses matching up with actual court verdicts, in order to provide the legal community with strong evidence that such analysis does in fact yield accurate results. Finally (although related to the first recommendation), since research on the relationship between number of words and truth telling versus deception has been less than conclusive, more research needs to be done to provide a solid theoretical basis for such correlations.

Forensic Linguistic Differential Diagnosis (FLDD)

Unfortunately, the single source obtained on Forensic Linguistic Differential Diagnosis (FLDD) focuses more on the complexities involved in linguistic analysis of criminal evidence than on describing the method itself.[14] According to Kniffka (1996b), the term differential diagnosis comes from the world of medicine, and the methodology involves statistical and other quantitative methods. FLDD is used with texts of anonymous or disputed authorship, and involves analysis of an impressive 150 to 200 parameters in a text (p. 117).

Even more important than the number of parameters, which range from sentence length to idiomatic usage (or ill-usage), is the relationship of the various parameters taken as a whole. Kniffka (1996b) provides a theoretical framework for FLDD in terms of three types of potential which forensic linguistic evidence must address. The first, descriptive potential, consists of compiling a description of the linguistic data to be analyzed, via "collocation, concordance, basic data retrieval and storage procedures of a thesaurus of text elements, [and] fragments of text features on the different grammatical levels (phonology, morphology, syntax, semantics, pragmatics)" (p. 76). Features related to the analysis are thus noted and collected. Second, explanatory potential attempts to explain observed (descriptive) data in terms of linguistic theory and the linguistic generalizations thereof. Finally, argumentative potential integrates the first two potentials into an application specific to the case at hand. Kniffka

concludes, "The three successive analytical steps, administered in solid scientific analysis, can be called the salient ingredients of FLDD" (p. 82).

FLDD attempts to differentiate between individual speakers' language behavior, not only to make generalizations about speakers of a language in general, which is the traditional aim of linguistics. Kniffka (1996b) illustrates the great difficulty such a task poses with German orthographic examples, wherein prescriptive language rules and people's everyday practice vary significantly, and even individual writers use different spellings in different settings. Confusion with complicated orthographic rules results in vastly variable actual production of orthographic features, further complicated by such factors as sociolinguistic variations (i.e., differences among the German-speaking countries).[15] Another difference between forensic linguistics and conventional linguistics is "that configuration and covariation of features is itself the core category and essence of the analysis and the main dimension of the inquiry" in forensic linguistics (p. 87). Thus not single or individual features but the shape of patterns that can be discovered is of importance when seeking to identify the creators of questioned texts.

One of the cases described by Kniffka (1996b) to illustrate the forensic linguistic process involves error analysis of a criminal text leading to a non-native originator. Typical orthographic errors of native German speakers (in spelling, capitalization and other punctuation) were accompanied by non-native errors as in mistaken wording of proverbs. A scale of native versus non-native

norming of the behavior was made, and all of the evidence (potentials) led to the suggestion that the writer was a non-native, as well as a member of the firm (based on content) receiving threatening letters. This led to the eventual capture of the perpetrator who was, in fact, an American.

Because of the complex interrelationship of various language features used by any one person, Kniffka (1996b) suggests that part of the analysis could involve setting up a group of binary features (such as [+/- typical mistakes/errors], [+/- rare mistakes/errors], etc.). The analyst would then "draw up a polarity profile which would give a 'differential diagnostic' picture of how these deviations are to be interpreted in combination" (p. 100). Even when such patterns are found and compared to norms of language use, great care must be taken in interpreting the data and drawing "speaker-specific" conclusions (p. 108). For example, just because a text includes a particular feature that is common to a certain category of speakers, it should not be assumed that this necessarily points to a member of such a group as the author.

Even Kniffka (1996b) admits, however, that FLDD "cannot be expected to supply a linguistic proof by hard data of the type used in the natural sciences" (p. 116), even though FLDD results can be supported by other empirical evidence. Nevertheless, the method does highlight the need for multi-layered, in-depth and sophisticated linguistic analysis, and contributes to such an aim.

It is difficult to evaluate the method based on this one article. It may be inferred, however, that FLDD seems to reflect much of the world of forensic

linguistics in that it is still in developmental stages, even if it has already proven useful to court cases, which apparently it has in the German setting (Kniffka, 1996b).

Forensic Discourse Analysis

Discourse analysis in the legal arena often involves the correction of transcripts which the linguist considers inaccurate (as discussed in Part Two), with subsequent analysis of these transcripts for conversation elements giving insight into, for example, an alleged and surreptitiously recorded language crime. Much of the analysis of interactions captured in such transcripts involves sociolinguistic considerations of the social context of the conversation, the understandings of the participants as derived from their conversation topic choices and responses, and other clues. According to Coulthard (1992), discourse analysis is conducted on either police records of interrogations or statements dictated to police, and includes such methods as comparisons of undisputed and disputed texts, demonstration of the brevity of supposedly verbatim records, and the "appeal to probabilities" (for example, that a poorly educated suspect would most likely not have uttered a syntactically complex statement appearing in his police-recorded statement) (p. 252).

One example of discourse analysis involves the flouting of the maxim of quantity, one of Grice's maxims explained in Grice's 1975 article, "Logic and conversation" (cited in Coulthard, 1992, p. 248). This maxim requires that in any cooperative conversation, one should not contribute more or less information

than is necessary to the conversation. For example, in the disputed statement of William Power, one of the defendants in the famous "Birmingham Six" case in the United Kingdom, Power said in the interview, "I saw Hughie give Walker his bag," while in the police version of the statement, he said, "Hughie gave Johnny Walker his white plastic bag" (Coulthard, 1992, p. 255). In the context of giving this statement, Power would have assumed that the police shared knowledge of Walker's first name. Furthermore, in the interview, the adjectives white and plastic would have emerged gradually (if at all). The unnatural repetition of these details in the police version of the statement is characteristic of the "over-explicitness" typical of "fabricated" texts (p. 250). Power was represented as giving much more information than anyone in all likelihood would in a (normal) conversation.

In addition to over-explicitness, discourse analysis reveals that disputed records of police interviews lack the follow-up questions that occur in normal conversations (Coulthard, 1992). Ordinary interviews contain "sequences of topic-linked exchanges" (p. 252) in which a topic is mentioned in response to a question, after which a follow-up question is asked to elicit elaboration on the topic introduced.

Roger Shuy, on the other hand, has focused on the discourse analysis of alleged language crime texts involving bribery, threats, perjury, and other types of language crimes. According to Shuy (1990), "The role of the linguist is to educate the jury on the structures and components of these oral

communications, thereby enabling them to understand what is contained within these recordings in a manner otherwise not possible" (p. 86). Topic Analysis, Response Analysis, and Topic-Flow Analysis are among the methods used to accomplish this. Topic analysis involves the listing of which speaker initiates which topics, deriving indications of each speaker's agenda, as speakers generally initiate topics in which they have an interest or agenda to pursue. If a defendant accused of a language crime initiated none of the "substantive topics" which could suggest his guilt, then an analysis of his responses should provide further clues to his intentions (p. 92). Responses are coded into nine different categories, such as "Respond fully to open-ended or wh-questions," "Respond partially to open-ended or wh-questions," "Respond positively to yes/no or tag questions," and "Defer the topic" (p. 87). The first two types of analysis are represented in tables in the article to organize the data.

Topic-Flow Analysis carries the analysis a step further by creating charts to illustrate the flow of conversation more graphically. Such an analysis identifies patterns in the interaction, such as which speaker exercises the most control over topics, and which topics the speakers consistently initiate or are more or less cooperative in responding to. Shuy (1990) claims that such analyses provide "road maps" for a judge/jury to be able to perceive the subtle aspects of conversation and participants' conversational strategies, and clarify whether a crime was actually committed (p. 104). This is needed, Shuy (1990, 1993) asserts, because listeners to a tape surreptitiously recorded by a

government investigator subconsciously tend to assume that the defendant is guilty. In addition, jurors may assume that a defendant has said something on a tape that in fact was said by another speaker, exemplifying the "principle of contamination in conversation" (1990, p. 90).[16]

Several examples of such cases in which discourse analysis was conducted are described in Shuy's book *Language Crimes: The Use and Abuse of Language Evidence in the Courtroom* (1993). One of the more famous cases involves the bribery accusation of Senator Harrison A. Williams, Jr. in the Abscam scandal. In 1978, the Federal Bureau of Investigation suspected Williams of bribery and began months of attempting to catch the senator accepting phony bribes from various agents posing as employees of Abdul Enterprises, owned by a phony sheik from the United Arab Emirates. Shuy points out the ambiguity of several words and phrases in the interactions, which Senator Williams could have construed very differently from the agents. This examining of ambiguous statements and their divergent meanings to different speakers is common in discourse analysis.

Shuy (1993) also points out that when Senator Williams refused a bribe from the sheik, his apparent lack of "righteous indignation," which the prosecution used to cast doubt on his intention to refuse the bribe, was in fact most likely an attempt not to offend the supposed foreigner (p. 32).[17] Furthermore, Shuy had, in listening to "dozens of surreptitious tape recordings of bribery events," identified four critical phases in a bribery event (pp. 21-22).

These include (a) the presenting of a "problem" by a briber, and response to it by the bribee (b) a "proposal" or specific offer presented by the briber and considered by the bribee (c) "completion" of the bribe, in which an agreement and conditions are re-confirmed and (d) "extension," in which expression of future business relations is planned by both parties (p. 22). In the Abscam tapes, not all of these phases were present, suggesting that a bribe event had in fact not occurred. Williams did not consider the proposal, and there was no completion or extension whatsoever. Alternatively, it may be argued that FL definitions of a bribe (or other crime) event do not stand in court because what matters is whether "the legal elements of bribery have been proved beyond a reasonable doubt" (Lewis, personal communication, April, 2002).

In another instance, Senator Williams was given stock certificates by an undercover agent, to which the senator responded with what Shuy calls "lax tokens" (passive responses not necessarily meaning assent), such as "uh-huh" (Shuy, 1990, p. 94). Even when evidence was presented at the trial indicating that the FBI admitted they had not obtained any real evidence that Senator Williams had committed a crime, it was too late, Shuy notes.[18] The "schema of guilt" (p. 89), or an aura of illegality enshrouding the entire case, led the jury to assume guilt.

In a lesser-known bribery case, the linguistic analysis was apparently equally unconvincing in the retrial, but Shuy (1993) attributes this again to a schema of guilt rather than to the evidence in the case. The defendants were

avocado farmers John McNown and John Poli, commissioners of a brothel commission (in a Nebraskan county with legal prostitution). The two men decided to test their suspicions that a woman who had requested a license was connected with the Mafia, by gauging her response to their requirement of extra money for the license. She reported the alleged extortionists to the FBI, who tapped her and sent her back to the commissioners with cash. Shuy's topic analysis of the ensuing conversation highlights the fact that all fourteen mentions of money were initiated by Janice, suggesting that Poli and McNown were really not all that serious about the money (as they had only mentioned it once in a prior conversation, but never in this one).

Defense and prosecution (Government) versions of the transcribed conversation differed (as discussed in Part Two), but the most critical difference was in the sentence uttered by Poli:

> Government transcript: No, I would take a bribe, wouldn't you?
>
> Defense transcript: No, I wouldn't take a bribe, would you?
>
> (Shuy, 1993, p. 37)

Shuy listened to the tape 50 times before producing his version, which happened to coincide with that of the defense. One reason for this decision lay in the division of syllables before and after the second comma (pause). Although the total number of syllables was the same in the two versions, Shuy heard the following syllable division: "__, __ __ __ __ __ ___, ___ ___?" (p. 37). Another factor to support this conclusion was the probability that a negative

statement rather than a positive statement would follow "No". The government's version is unnatural, lacking "grammatical harmony" (p. 38) in this respect.[19]

Finally, in analyzing McNown's and Poli's responses to Janice's fourteen mentions of money, Shuy (1993) found non-responses, changes of subject, evasiveness, and similar signs of a lack of enthusiasm, rather than any indication of accepting the offer of $5000 on the spot. Poli refused the bribe (if Shuy's transcription of his statement is correct) and hurried out the door. Janice thrust the $5000 onto the table saying, "Just take it. Here!" to which McNown responded, "What do you mean?" as Janice also bolted out the door (p. 40). Shuy muses on McNown's bewilderment and dilemma at this point, when he finally picked up the money and met Poli in the car. When Poli learned that McNown had in fact taken the money, he turned around and drove the car back to the restaurant—where the two commissioners were arrested on charges of bribery. Shuy concludes that while they had inadvertently received the money, which may have been "stupid," they had not actually accepted it, so no crime had been committed (p. 41). Shuy's testimony was admitted in the initial trial, which ended with a hung jury, but not in the retrial, and the two commissioners were convicted. He adds that other evidence beyond the language evidence may or may not have contributed to this verdict. Unfortunately, Shuy does not provide case information which would allow the interested reader to discover whether this was the case or what had convinced the twelve jurors beyond a reasonable doubt that the defendants were guilty.

Whether discourse analysis is merely a subjective method is still debatable, although it has presumably become more technologically informed in the decade since Shuy's writings cited herein (1981, 1984, 1990, 1993, 1998). It seems imperative that analysts satisfy the legal demand for proof of their expertise beyond any non-linguist's understanding of language, conversation, and transcripts. How this may be achieved seems to be a matter of time and the confirmation of linguistic analysis by other supporting evidence. Part of this may involve explaining how categories and classifications are arrived at, such as with Shuy's (1990) taxonomy of the bribery event or his categorization of responses. One of the response categories, "Respond appropriately to a person's non-question topics (such as opinions, reporting facts, promises, etc.)" (p. 87) may appear subjective in how the appropriateness of a response is determined.

Corpus Linguistics

One of the factors limiting the level of acceptance of linguistic analysis by the legal community involves the lack of data banks to support claims of linguistic probabilities. For example, the presentation of a corpus or list of actual usage of English could have supported Shuy's (1993) claim that a negative word such as "No" would most likely not be followed by a positive statement such as "I would take a bribe, wouldn't you?" (p. 38).

Corpus data used as evidence may include (but is not limited to) "computer printouts of word frequency counts and analyses, which show

correlations of common word choice or word length between two communications, or words infrequently used by the general population" (Pickett, 1993, Linguistic Analysis, par. 5). In other words, word frequencies in a disputed text may be efficiently compared with those in other texts by concordancing the two texts and deriving ratios and comparisons. On the other hand, language samples representing common uses of words, expressions, or other linguistic features may be collected and observations made regarding the frequency or infrequency of use. Language evidence may also be compared on the basis of the likelihood that a disputed statement would or would not have been said, or said with a particular meaning by a particular author, and so on.

As explained by Coulthard (1993), "The forensic linguist does not yet have norms nor even, in most cases, corpora from which the necessary norms could be derived and is thus restricted in the degree of certainty s/he can attribute to her/his conclusions" (p. 87).[20] This differs from forensic phonetics, with its bank of population data and dialect characteristics. Forensic linguists have, when possible, gathered corpus data to aid in their analysis of texts. The Mc- trademark infringement case discussed in Part One provides a non-criminal example. In that case, a computerized search engine (Nexis) and "a national clipping service" were used to scan newspaper and magazine sources for uses of Mc- (Lentine & Shuy, 1998, p. 69). From a total of approximately 150 articles (narrowed to 94) "represent[ing] a wide range of speech communities" in the United States (p. 69), linguists derived categories of common associations with

the prefix, which became part of the series of linguistic analyses presented in the case. (This evidence did not help the case of the defendant, however. As mentioned earlier, the mixing of Mac- evidence into the Mc- corpus likely weakened the linguistic argument.)

In the criminal case of Derek Bentley who was hanged 40 years before a plea for his posthumous pardon for the murder of a police officer, Coulthard (1993) was asked to analyze Bentley's confession. He compiled corpora of (a) witness statements, both related and unrelated to the Bentley case and (b) police statements, with two of the three involved in the Bentley case. Focusing on the use of "then," which seemed to occur unusually frequently in the questioned statement, he found that "then" was used only once in 930 words of witness statements but 29 in 2270 words of police statements. Coulthard found this significant, since in Bentley's confession, "then" occurred ten times in 582 words, a relatively high—and improbable, according to the corpus data—ratio. Coulthard also checked the Corpus of Spoken English which at the time contained 1.5 million words from natural speech samples, and found an average of one in 500 occurrences of "then" (ignoring its meanings). Based on these corpora and calculations of the frequency of "then," "then I," and "I then" (the last of which occurred seven times in Bentley's confession), he determined that "I then" and more generally Subject + then (which occurred 26 times in the police statements) is a characteristic of police register (pp. 88-89).

Although this evidence might convince applied linguists who accept the theoretical basis for making generalizations about language use norms supported by collections of actual utterance data, a universally recognized reference corpus of such data is necessary (albeit a daunting aim) to also convince the legal community of such probabilities. Coulthard (1993) suggests a compilation (corpus) of police and witness statements, rather than of just everyday conversation corpus data. This would make the language probability projections more obviously relevant to "hostile cross-examiners" who, according to Coulthard, may fail to see the connection between records of everyday speech and language behavior recorded in forensic statements (p. 89).[21]

This observation is echoed by numerous other forensic linguists in the literature. Kniffka (1996b) states that linguists "are dealing with fictions and nebulous concepts . . . of what we think can be called language use" (p. 91). What is needed to acquire argumentative potential is empirical, factual norms "operationalizable" (p. 92) in providing evidence in forensic settings. In Kniffka's study of orthographic norms in German, he had to compile his own small corpus via interviews and tests, which, while useful, is simply inadequate for confident generalizations or statistical conclusions. Another use of a corpus suggested by Kniffka relates to data banks providing evidence of "standards of criminal texts and text types" such as "standard blackmail letter[s]" (p. 117). Such a criminal corpus, as it were, would aid in predicting the gravity of intent (and illocutionary force) behind the language used in such letters. He extends this by explaining,

"Only by a large documentation of text types, standards of particular text types, contexts, when and how these text types are being used, etc., one may, eventually, make solid progress in analysing anonymous criminal letters" (p. 118). In fact, in the Czech Republic, as mentioned earlier, such corpus data from anonymous letters has been collected for several years, and Musilova (1996) reports the construction of a computer program classifying the letters and their language in the early 1990s. The goal was to have a data bank to which new letters might be compared for any possible connections between cases, as well as data for analysis of threat, extortion, or other criminal language samples.

Winter (1996) and Coulthard (1993) both note the problem of basing statistics and generalizations upon the limited data of brief police records of confessions. Winter celebrates the advent of the computer and its capacity to calculate word counts and collocations (or common co-occurrences). Both Coulthard and Winter discuss the analysis of three texts in the case of a disputed statement to the police which the suspect, Muggins, only partially verified. One of the other two texts was a verbal statement made to Coulthard, and the other was the "original statement" (Winter, 1996, p. 170). Corpus linguistic analysis mainly examined lexical items: "comparison of word frequencies" and "selective analysis of vocabulary" (Winter, p. 149). The "23 lexical items in the first 60 words" (p. 149) were arbitrarily selected for comparison, and through computer word counts it was found that details frequently mentioned in the disputed text were not mentioned as frequently, or

even at all, in the undisputed texts. These details were potentially incriminating to the suspect. One problem with the vocabulary search program the linguists used for this case was its inability to recognize noun phrases such as "Selly car park" (a name, which was instead separated into three separate words by the program) (p. 150). Nonetheless, word frequencies indicating "differences of information-giving" are apparent in the analysis, "without any fancy statistics or other linguistic analysis" (p. 152).

Another program was used in the case to compare and contrast vocabulary choices in the three texts, and to list words unique to each text. Although Winter (1996) admits that "more experience" is needed in interpreting such similarities and differences (p. 153), words which appeared significant were further analyzed. For example, key words which all three texts shared were concordanced (extracted and listed by the computer with the phrases in which they were uttered) to discover whether they referred to the same thing and whether "their frequencies match[ed] in proportionate distribution" (p. 154). Since Muggins's alleged involvement in a bank robbery revolved around his provision of a van for the crime, it is of interest that in the two undisputed texts, the van is referred to in terms of what was being done with it, while in the disputed text, most references are instead concerned with its identity. Computer concordancing of unique words highlighted their collocations with other words; for example, the use of "ABC" (the pseudonym for the name of the terrorist organization involved) with "man", "murder", "hijack", "vehicle" and "job"

(Coulthard, 1993, p. 94). Parenthetically, because the technology was not yet available, Coulthard was unable to present such computerized concordanced lists in court, but attempted to persuade the judge that this was indeed "suspicious" (p. 94).

Concordancing further demonstrated that the frequent use of relative clauses in the disputed text was not seen in the other two texts, and thus, as Winter (1996) observes, "well outside the competence of Muggins" (pp. 160-161). Linguists concluded that the details repeated in the disputed text but non-existent in the other two texts had been recycled, or obtained from other sources—perhaps the statements of other suspects.

It may well be questioned how convincing such concordancing truly would be in the courtroom setting. Does it provide more compelling evidence than without it, or is it simply another way of representing the data from linguistic analysis? Coulthard (1993) concludes that standardization of such methods is essential if forensic linguists propose to use them successfully in the legal setting. As Coulthard observes, "only when we know much more about the 'normal' can we be sure in identifying the deviant" (p. 94). For example, in one case involving an anonymous letter, a sample of ten authors was compared, and only one shared "idiosyncrasies" (p. 90), such as spelling and the non-capitalization of first person I, with the questioned text. This led to the conclusion that the single idiosyncratic author was the author of the anonymous text. However, a larger corpus of data would have helped to determine, and (in

Kniffka's terms) added argumentative potential, if it could have been verified that these idiosyncrasies were truly unique and not simply coincidental (occurring, for instance, among 20% of the general population).

Error Analysis

Error analysis may be understood as the examination of a text's idiosyncrasies, as in the case mentioned above involving a questioned text with spelling anomalies, the non-capitalization of I, and other non-standard language behavior or errors. Second language acquisition theory justifies error analysis of second language learner errors as representative "evidence" of learners' language "system" (Corder, 1983, p. 163). This theory has been subject to controversy, however, as will be discussed briefly below. As already discussed, corpus linguistics may come into play if the errors analyzed among a limited corpora (of a few suspects) need to be compared with a larger data bank of language behavior. Coulthard (1993) mentions the need for such comparison data to better determine whether idiosyncrasies (or here, errors) truly point to a particular author, or are simply coincidental because of their commonness.

An interesting case in the literature involving problematic error analysis (by the defense) and more in-depth error analysis (by the prosecution's expert) highlights some of the uses for and problems with this type of linguistic analysis, which in fact may constitute much of the linguistic analysis of questioned authorship texts. In the case in question, a Dr. Bran (in *State v. Bran,* 1990) was suspected of creating ten extortion letters with threats of poisoning the food

stock in a chain store if $500,000 was not delivered to a particular ditch along the highway (Hubbard, 1996). His diverse background in German-English heritage, Polish language, and Rumanian and South African residence made explaining the non-native errors in the letters difficult.

The purported linguistic expert called upon by the defense conducted her analysis by having Dr. Bran answer several essay questions in a test setting. She then did a frequency of error comparison between the two sets of data (the extortion letters and the essays), and determined that the smaller number of errors in the essays indicated that the defendant most likely had not written the extortion letters. Hubbard (1996), who was called as the prosecution witness to in part critique the defense's linguistic analysis, notes that a problem with the defense analysis was the classification of errors. Classifying errors is, in fact, problematic in general, but the defense categories were "vague catch-all descriptive" groups such as "stylistic oddities," "strange collocations," and "syntactic contamination" (p. 128).

Hubbard (1996), on the other hand, classified Bran's errors according to the more specific categories of "lexis, word order, tense, negation, agreement, pronominals, relatives, articles, demonstratives, prepositions spelling [sic.] and punctuation" (p. 130). With such a classification system, Hubbard found "very few high-profile parallels" in the limited corpora (p. 130). He therefore sought to find a larger corpus of comparison data from other writers with similar background and English proficiency to Bran's. Unfortunately, the corpus was

too small to further subcategorize errors and find relevant similarities or differences in error types. However, Hubbard was able to do so with spelling and article errors, both of which occurred with high frequencies in the various sets of data. Applying statistical measures confirmed that Bran's errors most closely resembled those in the extortion letters. However, as it was Hubbard's task to throw doubt on the defense's conclusions, rather than to prove the probability of the suspect's guilt, no probabilities were calculated.

Bran was convicted, which while this "lends support to the assumption that error analysis can have forensic value", should not lead to an overstatement of the value of such analysis (Hubbard, 1996, p. 137). Error analysis is still problematic, and could be faulted by legal critics as subjective, in the areas of error description and explanation. A further problem of the limited corpus data available for comparisons of errors has already been discussed. Error analysis may have limited value unless there are comparison texts of several suspects. Finally, results of error analyses must be interpreted with great care.

Reservations regarding error analysis in second language acquisition literature are numerous, as well. For instance, correct forms uttered by a non-native speaker tend to be overlooked, but cannot be assumed to indicate true linguistic ability when in fact they may have been merely the parroting of a native speaker (Corder, 1983). Furthermore, it is difficult (if not impossible) to determine any single cause of an error, which could stem from "interference" of

the first language, "intralingual errors" such as "overgeneralization" of second language rules, or from speaker misunderstanding of the second language ("developmental errors") (Schachter & Celce-Murcia, 1983, p. 274). In the forensic setting, this could be extended to suggest that a defendant may unconsciously produce one form in one setting and another form in another setting, complicating the analysis. Schachter and Celce-Murcia also note, "There is the ever present danger of treating performance data as if they were the only and ultimate truth" (p. 281), obviously problematic if a defendant in a case disguises his true language ability or otherwise does not cooperate. Finally, there may be "affective variables" altering a non-native speaker's language production, such as performance anxiety, resulting in errors or even avoidance of linguistic forms altogether (Kleinmann, 1983, p. 363). However, it may generally be the case (in spite of the unexacting nature of the analysis at this point) that errors truly reflective of a speaker's ability are patterned, while intentional errors are not, at least not with as much consistency.

General Recommendations

Although areas for improvement have already been mentioned with each forensic linguistic method described above, some common threads of methodological considerations should be sewn together before they are left for now.

1. Many methods (e.g., error analysis) require a more solid, or at least better

articulated, theoretical basis (which is indeed, as mentioned above, demanded by such legal standards as the Kelly Test). Such theoretical grounds should be explained to the legal community in clear, simple terms to expedite the court's decision (on a case by case basis) of whether such methods would benefit the court and/or can be admitted into a trial.

2. Categories for linguistic analysis in forensic settings, whatever the method may be, should ideally be standardized among forensic linguists. Moreover, since every case presents new issues, whatever categories are used should be explicable in specific, objective terms.
3. Ranges of both acceptable and abnormal variables (of language behavior) need to be explored in order to add validity to conclusions of calculations such as QSUM and TTR.
4. Case citations and/or other case details are critical in establishing a literature on the impact of FL on criminal justice, and in gaining credibility with the legal community. Some forensic linguists have alluded to confidentiality in legal records, but cases which went to trial (even if generally the linguistic evidence, not the linguist's expert witness testimony, was admitted in court) are public record (Peter Tiersma, Loyola Law School professor, personal communication, March 13, 2002). Standards of how to refer to cases which are not public record could be established to handle this ambiguity.
5. Related to the above recommendation, in FL case studies, explicit

information on whether FL evidence appeared to have any impact on the cases would be very helpful. Much of the literature is unclear as to what the holding in the case was, or whether the linguist who provided the analysis also testified in court, and if so, what specific methods were used. Admittedly, specific information on how a court verdict was reached may be obtainable only from the triers of fact themselves.

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[1] This is the legal citation form for cases from the *Federal Reporter*, 2d series.

[2] Lewis cautions against commenting on appellate case facts or holdings without having read them for oneself (personal communication, April, 2002). It is unclear whether the forensic linguists writing on the Clifford case did this.

[3] The Appellate Court in *U.S. v. Hearst* 563 F 2.d 331 (1977) "simply upheld the trial court's exclusion of the psycholinguistic expert testimony" (Lewis, personal communication, April, 2002).

[4] From the actual case: at page 765 footnote 10 (8th Circuit 1979)

[5] This case dealt with the same issue and holding as the Larson case.

[6] The judge's discretion is, of course, based on legal precedents and practice.

[7] Certiorari was granted on June 2, 1986, 476 U.S. 1157 [90 L.Ed 2d 717, 106 S.Ct. 2274] Dock No. 85-1563, as cited in 248 Cal.Rptr. 817, July, 1988.

[8] Since the Court Interpreters Act (see p. 18 of this thesis) mandates that an interpreter be provided for non-native English speakers, this would likely have been a case of judicial misconduct, although this information is not provided by Roy.

[9] The case was mentioned in Miron (1990) to illustrate the problem of admissibility of linguistic evidence.

[10] It was first introduced in court in a 1991 London case, *The Queen v. Thomas McCrossen* regarding the defendant's statement. As of 1996, the method had been used in a total of eleven U.K. cases by two practitioners (M. Farringdon, 1996b). In all of these cases, it was used by the defense to "provide reasonable doubt" (p. 200).

[11] Stylometry, according to Gibbons (1999), uses word counts and measures the "co-occurrence" of linguistic features like "the + adjective + noun," in which there is supposed to be wild inter-individual variance, and then applies cumulative sum formulations (p. 166). Linguists question "whether there is any identificatory potential in parameters such as the number of words beginning with a vowel" (p. 166). Note that Morton would most likely argue that stylometry, like the newer QSUM, is not related to literary style but rather to writer habit (see J. Farringdon, 1996b; M. Farringdon, 1996a). See Smith (1994) for a more detailed critique of Morton's stylometry approach.

[12] Success is not defined by proponents, but likely refers to the persuasive use of the method in U.K. court cases.

[13] However, as this case also suggests, the method may be considered unnecessary by the court because of the presence of more compelling evidence.

[14] However, Kniffka (1996b) does cite his previous works on the topic, most of them written in German, for more detailed descriptions of FLDD.

[15] See discussion of Fugen-s above, on page 49 of this thesis.

[16] Contrary to Shuy's concern, the legal community might argue that the lawyers in the case would evaluate this evidence and try to interpret it for the jury.

[17] Lewis notes that FL testimony would not be required regarding such a common knowledge observation, which "any competent defense attorney" would argue (personal communication, April, 2002).

[18] Note that Shuy does not indicate whether he was present in court, and how he obtained this information is unclear.

[19] It may be argued that such "grammatical harmony" is not necessarily realistic. "No" may be spoken to negate another speaker's statement, followed by a statement in the affirmative to correct the other speaker's statement.

[20] The legal interpretation of this statement would be that FL is more "art" than "science." It is more subjective "than permitted by the law establishing the criteria for admitting expert opinion" (Lewis, personal communication, April, 2002).

[21] Recall that it is the purpose of the cross examination to create an aura of "hostility" by "debat[ing] the accuracy of the test, undermin[ing] the reliability of the lab—even if you know, all the time, that the witness is telling the truth" (Estrich, 1994, p. M1). Thus the expert witness must take care to have solid evidence available which can provide hope of withstanding such apparent attack.

PART FOUR

PROFESSIONAL AND ETHICAL ISSUES AND RESPONSIBILITIES FOR FORENSIC LINGUISTS

APPARENT ADVOCACY AND CONFLICTING EXPERT TESTIMONY

Linguistic testimony has more usually and more successfully been offered on behalf of the defense than the prosecution, because linguistic analysis more easily provides reasonable doubt than proof (Couthard, 1993). Nonetheless, experts in the U.S. (as opposed to England, where the court appoints experts) are invariably hired by one side or the other, often by the government, and because of this, the appearance of advocacy is practically unavoidable (Hollien, 1990; Lewis, personal communication, April, 2002).

Hollien (1990) provides the following clues that an expert has gone beyond the unavoidable appearance of advocacy or bias to de facto advocacy:

> [H]e or she (1) is exclusively, or almost exclusively, a prosecution – or defense—witness, (2) makes statements that he or she 'could not be wrong,' (3) does not describe the evaluation procedures utilized; [sic] for example, 'they are classified'; 'they are too complex to understand,' [sic] (4) does not bring the data, materials or specific results of the relevant examinations to the courtroom, and/or (5) makes unwarranted (and often vague) personal attacks on opposing witnesses. (p. 35)

In addition to avoiding this list of behaviors, an expert witness must be on guard to protect her own impartiality throughout involvement with a case. For example, she must take care to turn down invitations to "strategy proceedings" or proceedings involving the impeachment or cross-examination of experts on the opposing side (p. 42). It may also be advisable for the linguist to avoid exposure to areas of a case unrelated to her direct involvement with the linguistic evidence, in order to remain as impartial as possible. There is another side to

this stance, however, which will be addressed below. Other considerations in avoiding advocacy are discussed in Part Five.

An obvious issue concerning apparent advocacy, however, relates to the "battle of experts" mentioned earlier. There are numerous cases in the literature in which experts on opposing sides varied in professional qualifications and/or presented conflicting evidence (e.g., Miron, 1990). An expert hired by an attorney should obviously keep this in mind and anticipate conflicting expert testimony (Finegan, 1997). It seems, however, that the best strategy for a linguist approaching this inevitable dilemma of working within the adversarial system is to ensure her own qualifications and methodologies.

QUALIFICATIONS OF THE FORENSIC LINGUIST

Because of the relative newness of the field of FL, universal standards and/or licensing and certification have evolved slowly. Forensic linguistic associations provide guidance and affiliation for the practicing expert (Hollien, 1990), as will be discussed in Part Five. However, there are several ways a FL expert can help ensure that she is qualified and credible when called upon to testify or analyze criminal evidence. First, she should determine her own area of expertise, as well as her limitations (Huntley, 1990). Training should also be as interdisciplinary as possible, involving exposure to social sciences, computer science, the scientific method, and so forth. As of 1990, there were few university courses available in the areas of expert testimony and responsibilities (Huntley), and this has only changed slightly in the burgeoning of the forensic

sciences in the years since. According to Tiersma, few such courses are offered in the U.S., although a handful of programs exist in the U.K. (personal communication, March 13, 2002).[1] Other specific training at the university, graduate, and even postgraduate levels should include a linguistic concentration and forensic specialization (Hollien, 1990).

Beyond university training, competence in the field should be gained through research, teaching, and the use and/or development of scientific methods in FL (Kniffka, 1996a). Other valuable experience supporting an aspiring forensic linguist's expertise includes, as for any academic or scientific pursuit, publishing articles in scientific journals (Hollien, 1990). Adoption of a code of ethics and practice in association with professional organizations also helps to distinguish legitimate forensic linguists from those who are less qualified (Kniffka, 1996a). The International Association for Phonetics (2000) has established one such code of practice, which may be viewed online.

INTERACTION WITH THE LEGAL COMMUNITY OFF AND ON THE WITNESS STAND

The forensic linguist may take several measures throughout the duration of her interaction with the legal community to ensure professionalism and credibility. First, prior to accepting a case, she should unearth as much as possible about the case and related laws in order to make an informed decision of whether or not to participate. (This obviously conflicts with the advice given earlier to avoid unnecessary involvement in a case, as will be discussed

earlier to avoid unnecessary involvement in a case, as will be discussed below.) For example, Chambers (1990) reports rejecting such offers after reviewing the law and evidence and deciding that "a professional linguist had nothing substantial to offer the case" (p. 20). This also involves referring cases outside one's own area of expertise to other specialists more qualified in a given area, as necessary.

Not only with specific cases, but also in general, a forensic linguist should "become thoroughly familiar with court decisions involving speech and language judgments in order to know the circumstances under which such evidence, given the constitutional and other evidentiary considerations . . . may be obtained and admitted into evidence" (Winitz, Wyrsch, & Riddle, 1990, p. 131). (See Part Three, as well as the *American Language Review,* 4th, for a summary of some of those cases.)

Secondly, professionalism in working with hiring lawyers involves clarifying one's limitations and qualifications at the outset. Hollien (1990) has proposed a model or taxonomy of "expert-witness categories and levels" (p. 39) to assist toward that end. This grid divides experts into categories of task or focus (i.e., technician, practitioner, and scientist) and "level of activity" (p. 41) (i.e., technician, criminologist, and specialist). Hollien suggests that this taxonomy could not only aid the expert in explaining his own ability and limitations but also aid legal personnel in selecting the most appropriate expert for a case.

In addition to the points mentioned in Part Four for avoiding advocacy, the forensic linguist needs to maintain impartiality and professionalism by limiting reports on the analysis to her findings of the facts, and not be swayed into construing the facts from the view of the advocate (Hollien, 1990). Huntley (1990) also notes the need "not to overstate your findings" (p. 51). For example, the expert may need to "admit that the examined text does not provide sufficient data for the necessary decision" (Musilova, 1996, p. 363). Findings may only be probabilistic, lending insight, but not proof, to the given case. Rather than invalidating the expert testimony, however, Musilova argues that this demonstrates the expert's sense of professional responsibility. Miron (1990) has noted, however, that scientific tentativeness may give a court the impression of uncertainty about whatever the expert has found in the linguistic evidence. Therefore, hesitation to present findings as solid proof should be balanced with theoretical support for probabilities and their relative significance (if indicated) to a given case. No amount of lawyer coercion should alter the basic statement of the facts, and all findings should be backed by empirical methodology.

INVOLVEMENT IN CASES CONTRARY TO ONE'S OWN MORAL PRINCIPLES

According to Kniffka (1996a), "the discussion of ethical questions, including linguistic professional ones, has been gaining momentum in the last couple of years" (p. 47) and will no doubt continue to with increased forensic

linguistic visibility in court. Some of the ethical considerations in practicing FL in the criminal court setting have already been mentioned: avoiding advocacy, acknowledging limitations, acquiring the necessary training, and abiding by a code of practice.

Another major area of ethical import, however, is cases which conflict with a linguist's own moral principles. One of the difficulties of working within the adversarial law system is, as Conley and Peterson (1996) point out, the differences between lawyers' and scientists' "ethical systems" (p. 345). First of all, a lawyer is committed to his client's case regardless of his own moral stand on his client's actions, and "relies instead on the systematic morality of the adversary process" (p. 346; see also Estrich, 1994). The expert, on the other hand, is not bound to this principle of advocacy, and cannot necessarily "suspend moral judgment" (Conley & Peterson, 1996, p. 346) on her undertakings. Therefore while a lawyer committed to the due process of the law can relinquish his hold on personal values in the courtroom, the expert witness has no such commitment to the law or to the client, but rather a commitment to the truth as realizable through science. Contrary to the earlier suggestion to avoid learning any more regarding a case than is directly relevant to linguistic analysis, then, an expert may want to find out all the implications of a case before finding herself embroiled in the dilemma of, for instance, supplying evidence that helps acquit a defendant with whom she has moral qualms. Furthermore, the withdrawal of an expert from a case may appease her own

conscience, particularly in cases where she is convinced of the defendant's guilt based on her work—but the legal community could react to such a decision as adverse to the case, inadvertently and indirectly disclosing the evidence unfairly (Conley & Peterson). Contrary to Conley and Peterson's suggestion of such adverse effects, however, Lewis notes that if the expert for the defense withdrew from a case or if her analysis pointed to the defendant's guilt, the D.A. would most likely "never learn of the existence of that forensic linguist" (personal communication, April, 2002). So far in the literature and in the practice of FL, it seems that an expert's approach, of either seeking all the details of a case, or of avoiding any information not necessary to the linguistic analysis, is a matter of personal choice. In the future, such choices may be assisted and/or informed by an applicable code of ethics.

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[1] A listing of Forensic Science and Criminology courses and programs in the U.S. can be found online at the Crime-Scene-Investigator Training and Employment website at http://www.crime-scene-investigator.net/csi-training.html

PART FIVE

THE FUTURE OF FORENSIC LINGUISTICS

A SHORT LIFE EXPECTANCY?

Malcolm Coulthard, one of the premier forensic linguists for the last couple of decades, has claimed that because of improving police recording procedures, "forensic discourse analysis is likely to have a comparably short life" (1992, p. 243). Because discourse analysis is representative of the field of FL in general, this statement could be taken to extend to all of FL. However, such pessimism is likely unrealistic. Kniffka (1996a), for example, would object, "it can be said that in the United States, the Anglophone world as a whole and Germany, FL has now established itself as an accepted branch of Applied Linguistics. All empirical indications suggest that this trend will continue and strengthen" (p. 28). Rieber and Stewart (1990) concur that language scientists in the legal arena will only become more common. Perhaps Coulthard himself changed his mind regarding his bleak prediction, as he later noted the "developing methodology and growing number of linguists who act as expert witnesses, a few even on a full time basis" (1993, p. 86).

THE DEVELOPMENT OF THE FIELD OF FORENSIC LINGUISTICS

Although the admitting of linguistic evidence into the courtroom dates back to at least the early twentieth century (ALR 4th), it seems that individual practitioners of linguistic methodology in the legal setting began to appear in the late 1970s and 1980s, with a subsequent explosion of FL in the 1990s. The

establishment of FL as a field was catalyzed by conferences, research and publications during this later period. In 1988, Rieber and Stewart (1990) brought together language scientists and legal personnel in a workshop sponsored by the New York Academy of Sciences, which helped to launch discussions on the topic. Forensic phoneticians also instituted annual conferences, with the third such British conference in 1991, followed by Britain's first forensic linguistic conference in 1992 (Coulthard, 1992). In 1993, the first International Congress of the International Association of Forensic Linguistics convened in Bonn, in addition to other related international endeavors, making 1993 "one of the major starting-points of activities in the field of FL" (Kniffka, 1996a, p. 23). International journals promoting scholarship in the field include *Forensic Linguistics* as well as *The International Journal of Speech* and *Language and the Law* (Rodman, 2001). Thus the field has moved from being an unsavory activity to which linguists such as Chambers "trudged off," reluctantly leaving the sterile confines of applied linguistic academia, to a recognized, bona fide profession (1990, p. 19).

Forensic linguistics has been developing as a field in several countries: the U.S., U.K., Australia, Italy, and "Arab countries" (Kniffka, 1996a, p. 25). The focus of activities of FL varies from country to country, however, with the analysis of indigenous languages for land right cases in countries like Australia and Canada nonexistent in, for example, Germany (Kniffka). The focus on questions of text authenticity in English-speaking countries also exceeds that in

Germany (Kniffka). Such variations, and more intercultural and international applications of FL, have yet to be studied.

What remains, then, is for FL to legitimize itself as a valid forensic science in theory, methods, and professionalism. Kniffka (1996a) notes that while courts may charge that FL is as yet a fledgling, unproven science, it is in fact a modern application of methods very similar to historical linguistics. Forensic linguistics has entered the spotlight of public awareness in famous cases such as the Unabomber communiques eventually traced to Ted Kascynski, and examination of the ransom notes in the Jon Benet Ramsey case, in the 1990s. However, Kniffka protests such "sensational[ism]" surrounding FL, as "there is absolutely nothing spectacular about the every-day details of FL analysis of anonymous texts" (p. 27). Nonetheless, such publicity has no doubt inadvertently contributed to the recognition of FL as a forensic science, or at least as a tool in the examination of language evidence to assist in criminal investigations.[1]

FINAL RECOMMENDATIONS AND AREAS FOR FURTHER STUDY

Kniffka (1996a) observes, "Forensic linguistics has made some remarkable progress in the last two decades but it still has a long way to go" (p. 33). It has developed into a recognized profession with its own conferences, journals and growing body of literature. However, to summarize some of the themes in this thesis, there are several areas in which, as Kniffka notes, there is wide room for improvement.

1. Much more data on the norms of language behavior is needed. Computer concordancing programs are helping to expand this area of information, but there seems to be a need for more communication among those researching and practicing FL to jointly compile such data. Perhaps this could be achieved via the Internet or standardized programs updated regularly. Such information would help enable linguists to state with greater confidence the level of probability that certain language behaviors would or would not occur among the general population.
2. Linked with the need for data on language norms is the need for more data on criminal language behavior. This could include a classification system, as has been compiled in the Czech Republic, and be used for a number of forensic and forensic linguistic purposes, such as, determining the realizability of threats. It would seem prudent and critical to obtain such data from government sources, but since this has not been possible thus far, a means for making such information sharing beneficial to both sectors could be proposed.
3. Much more research is needed in the areas of testing and analysis methods. Not only do typical and atypical results need to be determined for such methods as QSUM and TTR, but uniform (as much as is possible) standards and means of interpretation of test results identified and published as a resource for the FL community.
4. The collaboration of numerous measures of language behavior must

continue to be emphasized. In many of the more successful cases in the literature, the collaboration of several different tests supported and therefore lent validity to conclusions regarding linguistic evidence. Perhaps a hierarchy of which measures or tests carry more or less weight in different types of analysis could be established and published.

5. Because the legal world is relatively new for linguists untrained in the ways of the court, there is a need for greater sensitivity and adaptation to the legal culture, as it were. A first step to this would be attempting to gain an understanding of how the legal system works and how expert testimony, as well as linguistic analysis, is viewed by the legal community. Once some level of understanding is reached by FL in general and by linguists in particular, a system of explaining linguistic theory in terms understandable to the court should be devised. One way to achieve this would be to track the precedents of the admissibility or inadmissibility of FL in court, how it was construed by the court, and whether it seemed to have any bearing on individual cases. Legal records may be informative to some extent, but reference books in which contributing authors (forensic linguists) provide detailed accounts of their transactions with the court in a systematic way would be of enormous value to other linguists preparing for related cases.
6. It should go without saying, although it does not seem to have so far, that detailed case citations would help standardize and legitimise such case reports by forensic linguists. Legal precedents govern the court by virtue of

the doctrine of *stare decisis*, in which "it is necessary for a court to follow earlier judicial decisions when the same points arise in litigation" (Garner, 1999, p. 1414), closing the door on further decision-making unless an exception is justified. Experts interacting with the court, then, should follow the legal standard and provide case data. This may include acquiring some training in legal research and citation formats. Furthermore, a body of theory acceptable and understandable to the legal community should be developed to assist linguists in explaining how they can (or cannot) assist in linguistic analysis in particular cases.

7. Related to standards for interaction in the legal community, forensic linguistics needs a comprehensive code of ethics similar to that used by the International Association for Forensic Phonetics. More communication regarding some of the ethical and moral dilemmas would also contribute to the professionalism and reputation of the field.
8. Although the scope of literature surveyed for this thesis was far from exhaustive, a tone of either triumph or dismay was noted in many of the sources. There is a sense in the literature that the responses of the legal community and rulings of the court either validate or foolishly ignore forensic linguistic attempts to provide suitable evidence and/or testimony. It seems that if FL seeks to move from a relative state of novice to one of professionalism in the legal community, objectivity must manifest itself in the reporting of cases, as well as in the analysis of data.

Although it would be presumptuous to overstate the importance of linguistic analysis in the legal setting or in any particular case, then, it is certain that there is still much room for forensic linguistics to grow. On the other hand, involvement in criminal proceedings should by no means be taken lightly or approached by the linguist without the necessary background and preparedness needed to do the job well. Forensic linguistics has significantly contributed analysis and insight in matters of language evidence to pre-trial investigations and trials, and with improved objectivity and professionalism, should continue to do so, to an even greater extent, in the decades to come.

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[1] To reiterate an earlier point made, however, note that "there is a big difference between the use of FL as an investigative tool and a forensic linguist who offers this opinion in a criminal trial" (Lewis, personal communication, April, 2002).

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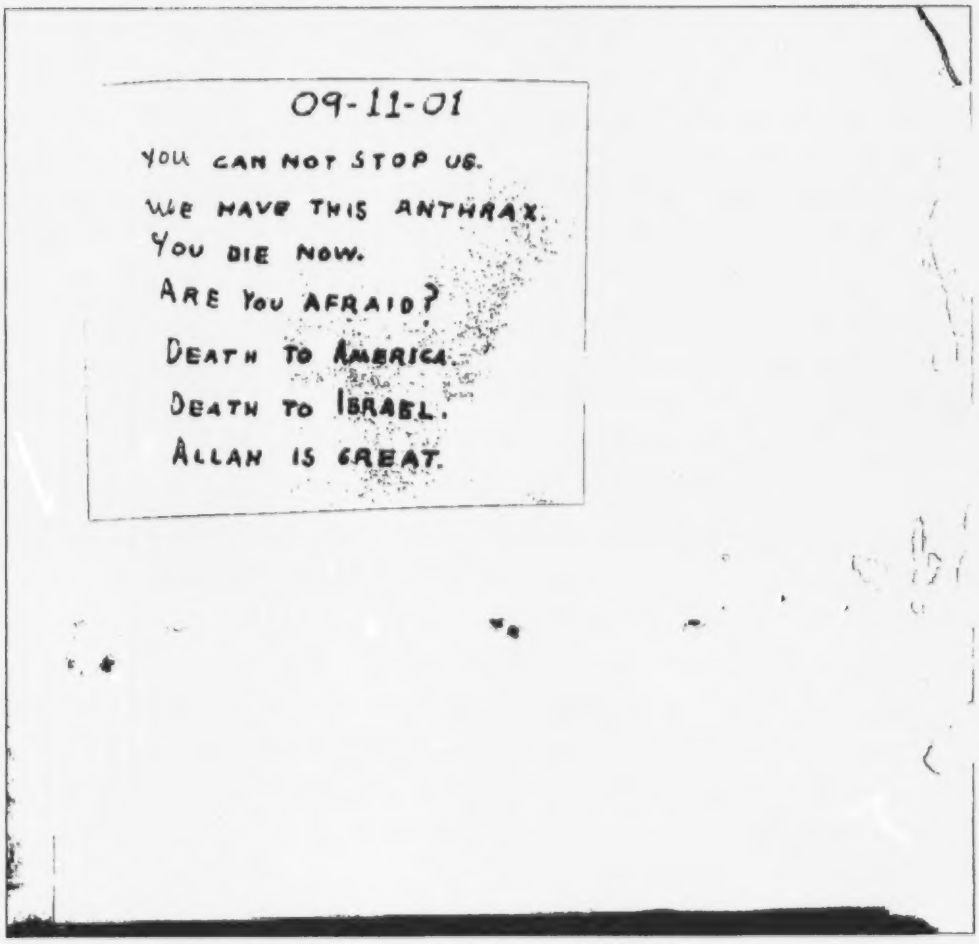
Appendix

Anthrax Letters



09-11-01

YOU CAN NOT STOP US.

WE HAVE THIS ANTHRAX.

YOU DIE NOW.

ARE YOU AFRAID?

DEATH TO AMERICA.

DEATH TO ISRAEL.

ALLAN IS GREAT.

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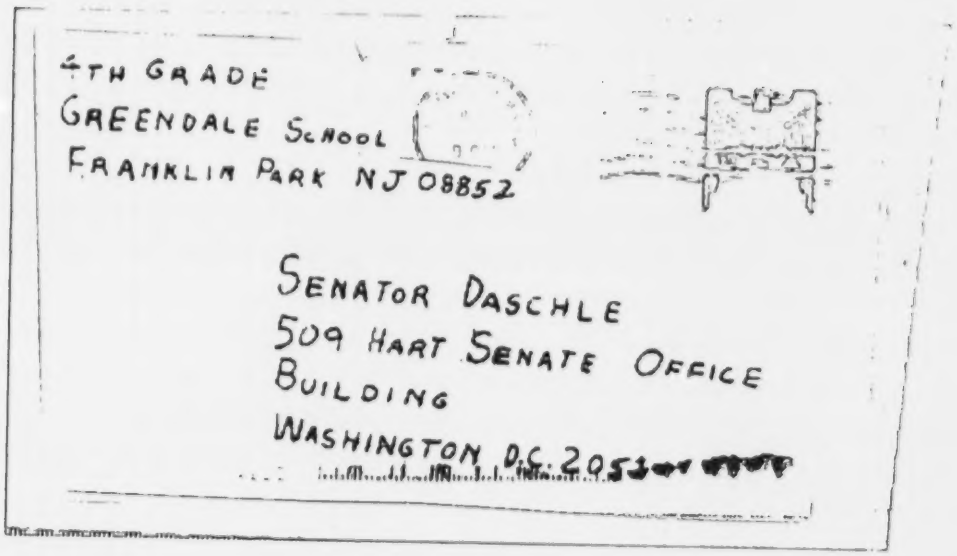

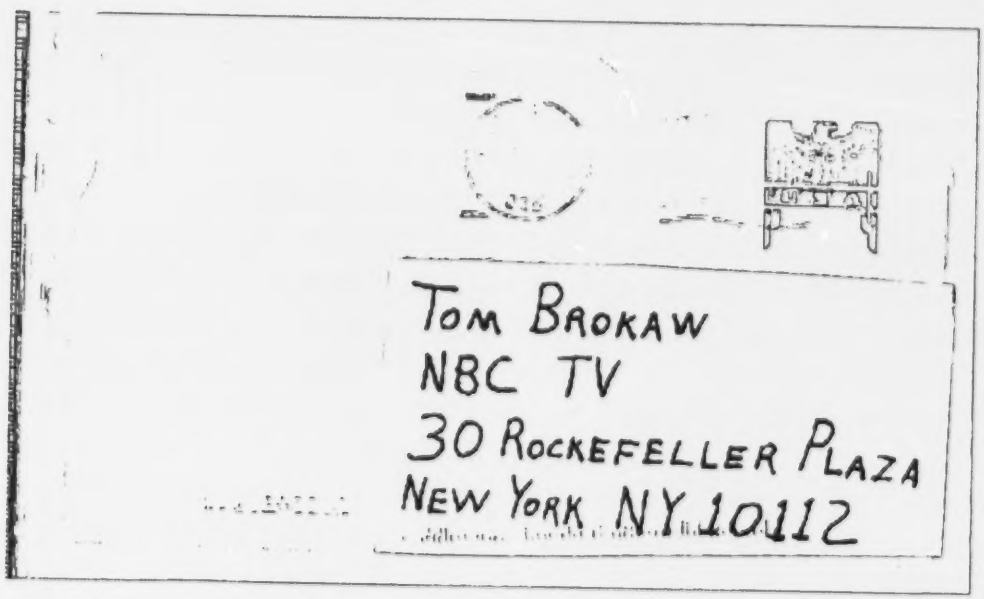

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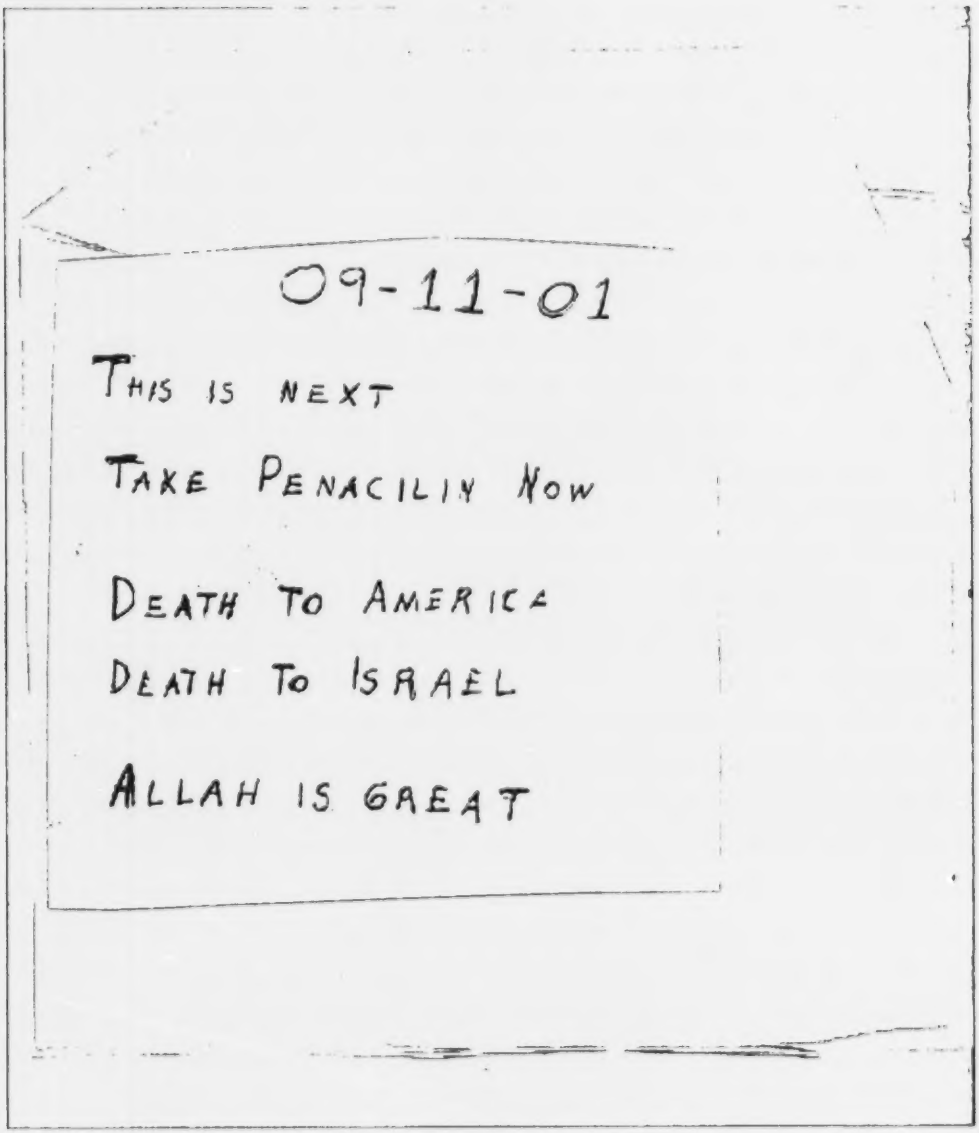

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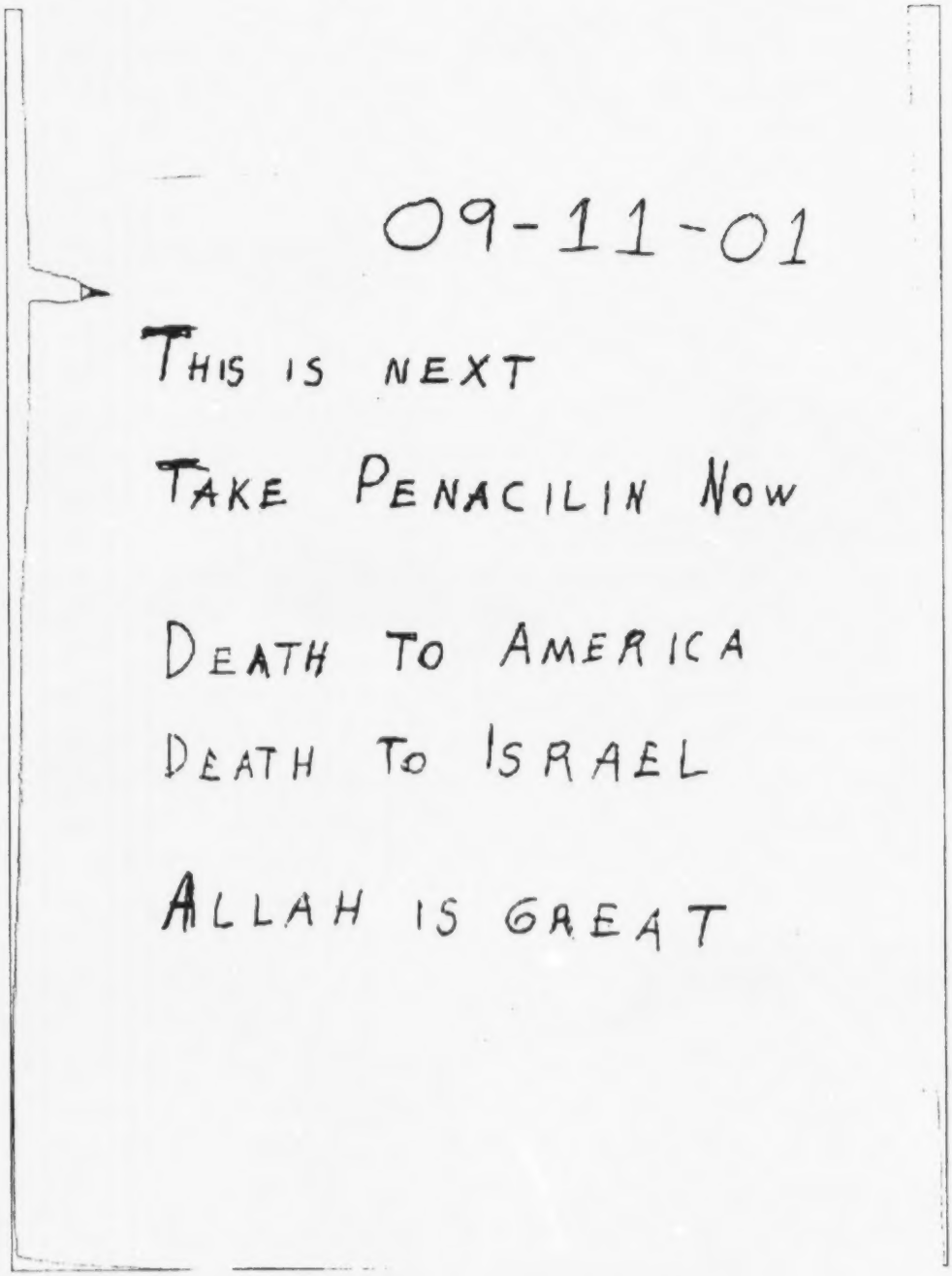

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